# AMERICAN Massachusetts NUVI 1921 Agricultural College FRUIT GROWER

OCTOBER, 1921

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# AMERICAN FRUIT GROWER

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No. 10

# Citrus Growers "Short" the Manure Circuit

A MEANS of supplying much-needed organic matter for the fertilization of their orchards, ing" the manure circuit is today, orhaps never before, receiving able consideration at the hands able consideration at the hands othern California citrus growers. districts unusual interest is belown in the direct application of rals which in the past have by gone to livestock raisers for a purposes. Large quantities of straw, alfalfa hay, barley straw, ther materials of a similar name now being applied to citrus in the place of the manure formerly was used.

I until such time as diversifieding with livestock raising as an tant side line comes into more all use in this part of the State it reasonable to expect more and use of such materials as feres. For growers recognize that

s. For growers recognize that le organic matter must be had able organic matter must be had citrus orchards are to be main-ied in good bearing condition. And supply of animal manures which he past has furnished the most im-tant source of organic matter is fully diminishing with the advent the automobile, the truck, and the

while there is no denying the fact at the fullest utilization of such ma-rials is derived only when fed to simals and the manure resulting conimals and the manure resulting con-red and applied to the orchards, at e present time there is considerable idence to show that the competition manures has advanced the price to e point where it is more profitable purchase feedstuffs and apply them tectly than to purchase manure.

### Alfalfa and Bean Straw

Alfalfa and Bean Straw by far the most important maals containing feeding value for mals now being used as fertilizer itrus orchards are alfalfa hay and a straw. Thousands of tons of the materials, particularly the forthare at the present time being and on citrus groves and huge its of baled bean straw and barley we along the edges of orchards are no means an uncommon sight. The question of the value of such

traw along the edges of orchards are by he means an uncommon sight. The question of the value of such materials as fertilizer is naturally of the utmost consideration to the grower, particularly so in relation to the price which he must pay for them. Hundreds of analyses of leguminous materials made during recent years how that the variations between different materials such as bean straw adalafa hay are on the average he mater than between individual samples of the same material. For general purposes they may all be said to cossess approximately the same composition. Bean straw of all kinds, alaffa hay, and other leguminous materials of a similar nature may be considered to have about the following composition: water, 15 percent; oranic matter, 82 percent; nitrogen, 5 percent; phosphoric acid, 5 percent, and potash 1.5 percent.

What knowledge is available regarding the value of these materials

By Robert W. Hodgson, California

Renders in California and other Pacific Coast states are urged to write to us about their fertility problems, or any other problems relating to the maintenance or operation of their orchards. The best way to get full value of your subscription to American Fruit Grower is to ask questions.

for fertilizer indicates that of primary importance are the organic matter and the nitrogen. The latter is fairly readily available in most soils and is not subject to the losses which occur in manure nitrogen. A fair value for such nitrogen would seem to be in the neighborhood of \$7 per unit. Valuing the organic matter at five cents per unit (a purely arbitrary figure) bean straw or alfalfa with the above analysis would figure to be worth \$14.60 per ton, a price which is not far from that now quoted citrus growers in many districts. What data is availthat now quoted citrus growers in many districts. What data is avail-

able indicate that the phosphoric acid and potash contents may well be ig-nored as of little importance, at least for most California soils. Figured on this basis it can be readily seen that this basis it can be readily seen that bean straw and alfalfa hay are worth more than twice as much as the usual fresh manure both from the nitrogen content as well as from the organic matter standpoint. With the ex-tremely dry manures this is, of course, the case although the greater bulk. not the case although the greater bulk and freedom from extraneous ma-terial are advantages in favor of these materials even though of similar anal-

ysis to the so-called concentrated ma

Amounts applied vary considerably, running from two to ten tons per acre. A commonly used amount is a bale to the tree, which will run between four and five tons per acre. Methods of application also vary, the usual method being that of surface spreading. During the past two or three years, however, many growers have adopted the furrow method of application with splendid results. Where bean straw is very viny it is sometimes difficult to pack it in the furrows and some growers are now running it through a feed cutter before applying. The universal time for applying such materials is during the fall and winter months.

### Barley and Other Cereal Straws

In some districts growers are now using considerable amounts of barley and other cereal straws as fertilizer. and other cereal straws as fertilizer. Such materials must be sharply differentiated from leguminous materials as their values as fertilizer are markedly different. They have different analyses and decay quite differently in the soil. A fair sample of the composition of barley or wheat or other cereal straw is as follows: water, 15 percent; organic matter, 32 percent; nitrogen, 6 percent; phosphoric acid, 2 percent; and potash, 75 percent. The main difference in analysis are seen to be in the nitrogen, phosphoric seen to be in the nitrogen, phosphoric acid, and potash content, the nitrogen which is the important element, being approximately one-half that of leguminous materials.

minous materials.

Of more importance, however, is the way cereal straws decay in the soil. Instead of a fairly rapid and ready decomposition by soil bacteria, on account of their cellulose content they resist decay. Moreover, in decaying there is much evidence to show that there is an actual draught on the soil for soluble nitrates which must be taken at the expense of the trees. Of course they do ultimately decay and furnish organic matter, but the process of decaying seems to be much longer drawn out and different in nature from that of leguminous mafrom that of leguminous

On heavy soils, however, or soils already high in organic matter content the use of such materials for the physical effect they have in opening up the soil may be advisable. Amounts and methods of application for cereal straws are about the same as for bean straw and alfalfa.

bean straw and alfalfa.

As an additional source of leguminous materials for organic matter for citrus orchards, growers are now discussing the use of waste lands for planting to rank growing legumes such as sweet clover, or some of the native lupines, etc., which would provide large tonnages of readily decayable organic material at a comparatively low cost. Certain it is, however, that until supplies of manure increase with consequent reductions in price the question of "shorting" the manure circuit will continue to engage the attention of citrus growers.



A Furrow Opened and Ready to Receive the Manure

### Trucks or Tractors on Farms

Motor trucks were reported on 181,-551 farms in 1920, or about 2 farms out of every 100 in the United States as a whole. The number of motor trucks on these farms was 139,169.

The states leading in number of motor trucks on farms were: Pennsylvania, with 9,372; New York, with 9,259; Iowa, with 8,910; Ohio, with 7,319; Nebraska, with 6,548; California, with 6,416; and Illinois, with 6,154.

Tractors

Three and six-tenths per cent of the farms in the United States were reported as having tractors on January 1, 1920. This is about 1 farm out of every 28. The 229,334 farms thus represented reported a total of 246,139

The states reporting the largest umbers of tractors on farms in 1920

were as follows: Illimois, 23,102; Iowa, 20,270; Kansas, 17,177; Minnesota, 15,503; California, 13,852; North Dakota, 13,006; South Dakota, 12,939; and Nebraska, 11,106. These eight states reported more than one-half of all tractors on farms in the United States. For the country as a whole, there were 38.2 tractors for every 1,000 farms in 1920, and for the eight states above mentioned, taken together, 106.8 tractors for every 1,000 farms.

The states with the highest percentage of all farms reporting tractors in 1920 were as follows: South Dakota, 16.3 per cent; North Dakota, 15.2 per cent; Montana, 12 per cent; California, 10.3 per cent; Kansas, 9.8 per cent; Illinois, 9.3 per cent; and Iowa, 9.1 per cent.

# Russet Article Arouses Dr. Ross

N THE August issue of AMERICAN FRUIT GROWER under the title "Why Sixty-one Percent Russet" made some comments about a state-I made some comments about a statement published by the Florida Citrus Exchange from its president, Dr. J. H. Ross, in which he showed that of the citrus fruits marketed through the auctions in four big cities, some sixtyone percent were of the russet grade, and less than one percent of the fancy grade. The purpose of my comments was to emphasize the real seriousness of the high proportion of low grade fruit as compared to the best grade, and how the situation could be changed to the great profit of the growers, by thoroughly spraying their groves.

Since the appearance of my article, I am in receipt of a very interesting letter from Dr. Ross which I am reproducing in full, as it contains facts that should be of interest, not only to citrus growers in Florida but to all fruit growers who are interested in fruit growers who are interested the co-operative marketing of fruit.

The Letter from Dr. Ross Tampa, Fla., August 8, 1921. E. H. Favor, Managing Editor,

American Fruit Grower,
Chicago, Ills.
My Dear Mr. Favor—The article in
your issue for August entitled "Why
Sixty-one Percent Russet?" has been
brought to my attention.

Sixty-one Percent Russet?" has been brought to my attention.

While this article is manifestly friendly in its tone and makes some very excellent points, I am afraid that because of lack of full inside information of our affairs you have been led to draw some conclusions which may not be entirely correct.

I am sure your article is not written in a critical spirit and that you have no intention of criticising the Florida Citrus Exchange, yet hope I may be pardoned if I endeavor to correct you upon some points, doing this in the same friendly spirit which pervades your own article.

In the first place let me explain that I was led to write my article "Fancy Fruit and Russets," which you comment upon, in order to correct some false impressions which were being spread by speculative interests. Propaganda was to the effect that the average prices received by the Florida Citrus Exchange were lower than those obtained by certain speculative agents. My idea was to show the utter falsity of this by taking fruit of the various grades and establishing by the record figures of the auction markets how, grade by grade, Florida Citrus Exchange fruit had sold for higher prices than fruit from any and all other Florida shippers. This was done in that article.

By E. H. Favor, Managing Editor

The Editors of American Fruit Grower will be very glad to hear from any citrus fruit grower relative to the problems that confront him in the minagement of his grove or the production of superior grades of fruit. What are your problems! Are you getting the results you ought to get from your spraying? Tell us about it and let us help you.

This article also showed that a speculative agency by handling a large quantity of high grade fruit and a very small quantity of the lower grades could obtain a high average price on its total shipments, which however means very little—certainly nothing to brag about.

In bringing out these facts in my article it also was brought out that we

In bringing out these facts in my article it also was brought out that we were marketing a very considerable percentage of russet fruit, while speculative organizations were handling little or no russet fruit. Your comment is upon this fact and it is very evidently your idea that our cooperative organization should remedy this situation by so educating and inducing our growers that they will largely increase their production of fruit of fancy and bright grades and correspondingly reduce their production of fruit of lower grades.

### Must Sell What Is Tendered

In a way you are correct, yet I must maintain that ours, as a co-operative selling organization for the various local associations of Florida growers, must undertake to sell whatever fruit is tendered it by its members, provided that such fruit is fit for human consumption.

provided that such fruit is fit for human consumption.

No one can disagree with you as to the desirability of producing fruit of fancy and bright grade. Unfortunately, however, there are a number of things which must precede this. One of these is the matter of educating the growers as to the full desirability of this, incidentally establishing to them that expense sustained in the process will be more than returned through better prices for their fruit. The Federal Government and our State Government have numerous qualified representatives in the field whose function largely is to do just this thing. Their responsibility in the matter cannot be any less than the responsibility which attaches to the Florida Citrus Exchange, a purely co-operative organiattaches to the Florida Citrus Exchange, a purely co-operative organization to SELL the fruit of its members at cost. Also the Florida Citrus Exchange during the last shipping season handled just a fraction more than one-third of the carload citrus shipments from the State. Does not some responsibility in connection with

this important matter belong also upon the shoulders of those marketing agencies which handled the remaining

As a matter of fact, we have ac As a matter of fact, we have accepted our responsibility in the matter, but I do not know of any other organization which has. Our cooperative purchasing agency, the Exchange Supply Co., is only four years old now. A little more than a year ago we opened a Horticultural Department in connection with that business placing it is shown of Ma. P. F. partment in connection with that business, placing it in charge of Mr. R. E. Lenfest whom we felt was perhaps one of the best qualified men in the State to handle it. His performances since that time, I feel, have abundantly justified his selection. Since the beginning of his employment Mr. Lenfest has been devoting himself with unceasing energy to advising the individual members of our Associations in connection with their grove problems, fertilization, cultivation, spraying and pest elimination, entirely without charge. This work has grown so important and results thus far obtained have been so satisfactory we are preparing to enlarge this department materially just as soon as we may be able to obtain additional men of proper personality, education

men of proper personality, education and equipment.

Due to the fact that the Standard Growers Exchange, which has been the largest citrus factor in the State next largest citrus factor in the State next to ourselves, has joined the Florida Citrus Exchange since the time your article was written, and hereafter will market its fruit solely through our organization, our shipments next season should show a considerable increase over those of last year. This will widen our educational operations correspondingly, it is to be hoped, even then, however, we hardly can be prepared to accept responsibility for educating all citrus growers in Florida and inducing them to depart from some of their practices.

### Better Fruit: Better Pric

Ours is a selling agency, and derives its power from the growers. We have no authority, and no desire, to say to the growers of the State that they shall or shall not do this or that. It is our duty to sell their fruit and

obtain for it the best prices possible under the conditions, which I believe we have most efficiently done. Beyon this, our sales department has been a considerable pains to make clear tour various local units that the returns upon fancy and bright fruit as far and away in excess of those to hexpected from fruit of lower grade and the Horticultural Department of the Exchange Supply Co. is willing twork with any interested grower is aid him in raising the quality of laproducton.

The personnel of our board of rectors includes some of the forem and most progressive growers in the State. All of these gentlemen I

and most progressive growers in the State. All of these gentlemen I as sure are in entire agreement as to the desirability of producing fruit of a high grade as may be possible; and some of them do excellently well as established by the production of their own groves. Even then I am sure they have no disposition to attempt to dictate to other growers as to what they shall or shall not do, though only too glad to place at the disposal of any grower the results of their individual experiences in connection with the problem of producing better fruit.

Spraying has shown tremendous increase in Florida during recent years, and the experiences of many growen who have sprayed conscientiously and intensively are leading more and more of our growers to closer study of spraying and how to obtain best results through it. Unfortunately because of purely local conditions it has not been practicable for Florida growers to utilize fumigation in addition to spraying. Thorough pest control requires both spraying and fumigation, I believe. Now, however, certain recent advancements in fumigation promise to make this method practicable here, if the statements of the originators are proven correct in practice.

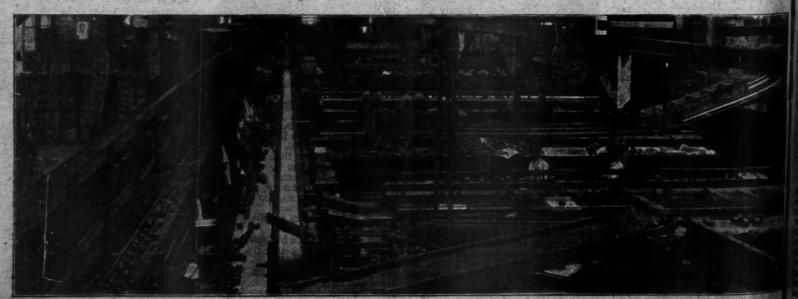
Growing Conditions Different

### Growing Conditions Different

Even then our problem of pest of trol in Florida is not likely to solved offhand. Conditions to which our fruit is grown are h quite different from those of other rus producing sections of our count ours is a sub-tropical climate, and tremendous volume of rainfall seems during our rains seems. tremendous volume of rainfall scends during our tainy season whi is in the warmest period of the resistance of the warmest period of the property of the property of the period of the tropics.

I am sure that ere long practical every grower in Florids will be swalened to the desirability of products (Continued on page 13)

nanufa J. S. F



er of the Exchange Packing House at Winter Haven, Fla. Such Structures Are a Credit to a Community and Are Invaluable in Co-operative Marketing

Grower

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Different

# The Berry Season of 1921

By C. I. Lewis, Associate Editor

The Editors of American Fruit Grower want to hear from our readers regarding their experiences with their berry crops during the past season. Let us have your story. If you have any management problem on which you wish special information, just let us know and it will be cheerfully furnished by letter.

HERE is considerable concern among berry growers in regard to the future of their industry. to the future of their middery.

The future mean reduction of creage, a neglect of large areas, with constant increase of pests? Will it mean the plowing out and destruction of large acreages, or will there be an expansion of the berry business in the

A year ago the berry business, like amost every other business, like amost every other business in the country, was in a very prosperous condition. Prices had reached phenomial heights. Strawberries wholesaled at from 14c to 18c per poundigamberries at 13c; black caps at 20c; and red raspberries at 25c. Experience showed that these prices were too high, and they helped contribute to the depression in the canning industry of 1921. Lower prices for berries, provided the wholesaler and retailer would have been content to sell-gually low, would have aided the industry.

mally low, would have aided the ininstry.

This past season we have seen a tremendous reaction. Generally, whenwer we have an exceedingly high
priced period, it is apt to be followed
by very low prices, that is, the prices
are apt to fall below normal, and that
the what happened this past year.

Early in the season the canneries remused to buy, and offered prices which
were less than cost of production to
the growers. Some growers, whose
perries were in isolated districts, did
not harvest their crops. Just what
has happened this past season will be
interesting to our readers:

Gooseberries

Gooseberries

The gooseberry is not grown extensively in many districts, and is a special crop berry. The canneries offered so low as 2½c a pound at the opening

of the season, and while perhaps under normal production costs one could raise berries at that price, they could not this past season. What goose-berries were canned by co-operative bodies are going to bring their mem-bers 4c or 5c a pound, because the market is continually strengthening.

Canned gooseberries will bring a dol-lar a dozen more than a month ago.

Strawberries

There was a tremendous decline in strawberry acreage during the war, especially in the east, but the rapid production here in the west the past season, brought several interesting

points to light. For example, in California, early in the season canneries offered growers 3½c for strawberries. The growers were not willing to take such a price, refused to sell to the canneries at such a figure, pooled all their strawberries in associations, advertised in local California papers, and sold their entire crop at 8c a pound.

In the Pacific Northwest, it was hard to get offers of 5c a pound earlier in the season. Associations who had canneries of their own are going to make a very good showing on strawberries. While the berries were bringing such a low price in the fresh market, the price of strawberries barrelled was 10½c, leaving about 8c to the growers. Barrelled strawberries are today selling for 15½c, provided they are the right variety and have been handled properly. The fresh market for strawberries was pushed harder than usual, and it was found that some of the softer varieties handle a greater distance than formerly experienced.

As far as berries for canning is concerned, this season has taught us that

merly experienced.

As far as berries for canning is concerned, this season has taught us that two varieties are standing in a class by themselves, the Wilson, and the Etterberg 121. This latter variety is often not productive, but on the right soils coupled with keeping the runners cut away, this variety is productive. These two berries stand the rain and heat well, and are the right size and texture. The Trebla, which up to a year ago, was thought to be one of the best berries we could produce has been a disappointment in the past year. It will not stand neglect in harvesting, turns a very dark red, and becomes almost worthless. These should be confined to small plantings,

(Continued on page 15)

(Continued on page 15)



What Is the Future of the Berry Industry? Will It Expand? Who Will Answer?

# Better Bushel Baskets for Fruit Shipments

By F. P. Downing, Indiana

TEXT to the barrel, the bushel basket is the leading package for apples in all states east of the Rocky mountains. Practically all of the early varieties of apples grown in this territory are packed in bushel baskets, and hundreds of thousands of these packages are used for fall and winter varieties. Because of the extent to which the bushel basket has come into use for fruit shipments, it became more and more necessary for manufacturers and consumers to have definite information relative to the form of construction and quality of material entering into the baskets in order that the package would serve its purpose. In co-operation with basket manufacturers, the Laboratory of the U. S. Forest Service at Madison, Wis., as conducted three series of strength as with bushel baskets which have an especially valuable in the information that has been procured. The first series was conducted for purpose of determining the require thickness of basket stock cut from flerent commercial woods. As a relie of these tests basket manufacture now are cutting their stock may have being cut thickness also made, soft woods like gum and cotawood being cut thicker than are the hard woods as beech or maple.

Design Changed

Design Changed

Design Changed
be second series of tests showed
accessity of changing the design
ackets. This has resulted in the
ufacture of baskets with a somewider bottom and with the cenhoop placed lower down on the
of the basket. The tests clearly
mustrated that these two changes
d make a wonderful improvement
making the basket safe for
ery but in widening and developthe possibilities of the use of the

Have you any package or eaching problems on which you want informa-tion? The Editors of American Fruit Grower will be very glad to have you ask them for it.

basket as a storage container for apples and other fruits. Investigation showed that the new basket would sustain a load of 500 nounds before breaking, thus affording a wide margin of safety in loading. At the same time, decking plans for cold storage are now being developed in co-operation with the Federal Bureau of Markets and will be published at an early date.

The cover has been the weakest point in basket construction. Poorly fitting covers, combined with insecure method of attachment have placed the basket in disfavor in some sections of the country with both carriers and receivers. The new "star" cover having

the same diameter as the outer rim of the basket is a decided improve-ment over the other styles. The slats in this cover cross at the center, rein-forcing the basket at the point where

most needed.

The third series of tests were conducted to determine the best method of cover attachment. Straight and double pointed basket hooks, two and four handle baskets, box strapping, 26 inch cross wires, and several other methods were used. The baskets were filled with apples, cover attached and drop tests made in the revolving drum, subjecting the baskets to the most severe treatment.

The best results were obtained with two 26 inch cross wires slipped underneath the top hoop, about four inches from each handle and either twisted at the center or held in place with a third short wire. Four handle baskets with an extra loose slat slipped beneath the two extra handles were also neath the two extra handles were also an effective method of securing the cover. Both of these methods are recommended for express or L. C. L. shipments, where there is danger of either theft or spilling.

Protecting Pad

Protecting Pad

This year has also witnessed the introduction of a 19 inch corrugated basket pad, designed to protect the top layer of fruit from both cover bruises and lid cutting. The popularity of this pad the past season is an indication that it will eventually replace the old 16 inch barrel pad, previously used by many shippers.

The government tests on baskets referred to above have been supplemented by actual shipments by express or L. C. L. freight of baskets packed with apples, sweet potatoes, pears and other fruit. Shipments were made from Atlanta, Ga., Gainesville, Tex., Vineland, N. J., and Buffalo, N. Y., to the Package Sales Corporation, South Bend, Ind. Beech, gum and maple baskets were used and the covers wired down as described. In each instance, both baskets and fruit came through the long shipments in excellent condition.

As carlot shipments of baskets receive less abuse in transit these experimental shipments prove conclusively that the basket, as now manufactured, is a safe and desirable container for shipping heavy fruits like the apple or pear. The 26 inch wires used in fastening the covers for express shipments will not be objected (Continued on page 11)





B. F. MOOMAW, Cloverdale, Va.



CHAS. E. HARDY, Hollis, N. H.



A. E. JOHNSON, Grand Junetion, Colo

# The Fruit Committee of Twenty-one

Appointed by the American Farm Bureau Federation

AT THE National Fruit Marketing Conference, held in Chicago, April 5th, President J. R. Howard of the American Farm Bureau Federation was asked to appoint a committee of twenty-one members to undertake the study of problems affecting the fruit industry. President Howard has now named the committee, and we are priviledged to reproduce the photographs of the appointees whose acceptances have been received at the time this issue of AMERICAN FRUIT GROWER goes to press.

Committeemen Who Have Accepted Appointment

W. B. Armstrong, Yakims, Wash. Trained as an electrical engineer, Mr. Armstrong served for a number of years as Pacific Coast Manager of the Bell interests at San Francisco. In 1910 he moved to a 40-acre fruit ranch in the lower Naches valley near Yakima, Wash., to engage in fruit growing. He is President of the Washington Farm Bureau and has been active in the work of the Yakima Valley Fruit Growers' Association.

Laurenz Greene, Lafayette, Ind. A native of

Growers' Association.

Laurena Greene, Lafayette, Ind. A native of Kansas. Graduated from the Kansas Agricultural college in 1906. Served one year in the New Mexico Agricultural College, and for eight years in charge of the horticultural work at the lowa Agricultural College. Since 1917 has been Chief of Horticulture at Purdue University, Lafayette, Ind.

Nelson R. Peet, Rochester, N. Y. Mr. Peet graduated from Cornell University in 1910. For the next six years he was in partnership with his father at Webster, N. Y., growing fruit and nursery stock. In 1916 he was appointed manager of the Niagara County Farm Bureau where he immediately organized six-teen central fruit packing houses. The success of this effort resulted in his appointment as manager of the Western New York Fruit Growers' Co-operative Packing Association. Mr. Peet is a very energetic, constructive worker.

worker.

Orlando Harrison, Berlis, Md. About thirty-five years ago, Mr. Harrison, with his father and brother began operating an orchard of a few acres and a nursery of less than one acre. The business has grown until the firm now operates more than 5,000 acres of nursery, orchard and timber land. Mr. Harrison long has been a leader in horticultural affairs and has served as president of such organizations as the Maryland Horticultural Society. American Association of Nurserymen, Southern Nursery, Association and Peninsula Horticultural Society. He has been a state senator since 1914, and has held many important positions in business circles.

C. E. Durst, Chiengo, Hl. Mr. Durst gradu-

and has held many important positions in business circles.

C. E. Burst, Chiengo, Hi. Mr. Durst graduated from the University of Illinois in 1909 and took his Masters degree in 1912. He served on the horticultural staff of the University for nine years. Then followed a few years as county agent in Union and Cook counties until his appointment with the Illinois Agricultural Association. Mr. Durst has been yery active in promoting the organization of the Illinois Fruit Growers' Association.

E. A. Ikenberry, Independence, Mo. Graduated from the University of Missouri in 1911. For two years following graduation he was in state and federal dairy inspection service, and then became county agent in Jackson county, Missouri. The extent of fruit growing in this county caused him to become interested in it, and at the close of six years' service as county agent, he took up the operation of his own morchard. He is now operating over 200 acres, mostly apples.

orchard. He is now operating over 200 acres, mostly apples.

William Hopkins Stites, Hendersen, Ky. Mr. Stites was born on a farm, In 1883 he began work in a bank as bookkeeper, and has been advanced from time to time until now he is Cashier of the Ohio Valley Banking and Trust Co., in his home town. Mr. Slites in 1917 purchased a run down fruit farm of 180 acres three miles out of town and made it his residence. Under his management the orchard has become very profitable. He is president of the Kentucky Horticultural Society.

C. I. Lewis, Salem, Ore. Mr. Lewis is well known to readers of American Pruit Grower through his many excellent articles dealing with the problems of fruit growers in the Pacific Northwest, and particularly in co-

operative marketing. For thirteen years he was Chief of the Division of Horticifiture, Oregon Agricultural College, from which position he resigned to take up work with the Oregon Growers Co-operative Association. He has been actively connected with that association since its beginning, and now is assistant general manager. He also is interested in two large commercial orchards.

Charles E. Hardy, Hellts, N. H. Mr. Hardy is recognized as one of the leaders in the advancement of fruit growing in the New England States. He was born on the farm where he lives—the "Brookdale Fruit Farm"—which he now operates in partnership with his son Harold, a graduate of the New Hampshire State College. Mr. Hardy has filled important positions in his community, and because of his activity as a leader was elected to the state legislature for the session of 1897.

Gray Silver, Martinsburg, W. Va. Mf. Silver is the owner and operator of commercial orchards and farms at Martinsburg, W. Va. and in Illinois and Arkansas. He is a breeder of shorthorn catfle and shropshire sheep and a car lot shipper of apples, cattle, wool, rice, wheat and corn. He has never been engaged in any other business than that of farming, and has been active in the work of county and state farm bureaus, horticultural and Hvs stock associations. For eight years he served in the West Virginia senate and now gives his entire time to the Washington office of the American Farm Bureau Federation.

B. F. Meomaw, Cleverdale, Va. In addition to being president of a large firm engaged in

entire time to the Washington office of the American Farm Bureau Federation.

B. F. Moomaw, Cloverdale, Va. In addition to being president of a large firm engaged in the growing and canning of fruits, Mr. Moomaw was very active in the organization of the Virginia Farm Bureau Federation, and served as its first president. He is a member of the executive committee of the state federation, and president of the Botetourt county Farm Bureau, as well as of the Virginia State Horticultural Society.

A. E. Johnson, Grand Junction, Colo. Mr. Johnson is one of the leading orchardists of his community, and has been very closely allied with the co-operative movement in his county. He is president of his county Farm Bureau, and is recognized as a leader among the fruit growers of western Colorado.

Dr. Q. E. Winberg, Silverhill, Ala. Dr. Winberg has made a success of co-operative buying and selling, and is the best known man in the citrus section of the Gulf coast. He is president of the Ruir County Exchange, a member of the Alabama State Board of Horticulture and vice-president of the Alabama Farm Bureau Federation.

W. S. Keeline, Council Bluffs, Ia. Mr. Keeline is a fruit grawer of long experience, and

W. S. Keeline, Council Bluffs, Ia. Mr. Keeline is a fruit grower of long experience, and a member of the Council Bluffs Grape Growers Association. He is widely known among fruit exhibitors through his connection with the National Horticultural Exposition, and the Mid-West Horticultural Exposition.

Other Appointees on the Committee

In addition to those who are mentioned above, President Howard has asked the following to serve on the Fruit Committee of Twenty-one:

wenty-one:
Sheridan W. Baker, Santa Rosa. Calif.
W. F. Farnsworth, Waterville, Ohio.
M. B. Goff, Sturgeon Bay, Wis.
W. B. Hunter, Atlanta, Ga.
Clement B. Lewis, Riverton, N. J.
R. B. Peters, Devore, Calif.
C. E. Stewart, Tamps, Fla.

C. E. Stewart, Tamps, Fla.

As soon as the full list of twenty-one acceptances have been received by President Howard and the committee completed, a date will be arranged for the first meeting of the committee. Then will begin the work of arranging for financing the activities of the committee in its consideration of the multiple of high problems that will come before it. tude of big problems that will come before it.
The American Fruit Grower will keep its readers fully informed on the work done by this committee, as it is believed the committee will develop plans and methods that will be of greatest value to fruit growers throughout the entire United States the entire United States.



C. E. DURST, Chiéngo, III.



GRAY SILVER



W. S. KEELINE, Council Bings, Ia.



ORLANDO HARRISON, Herlin, Md.

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W. B. ARMSTRONG, Vakima, Wash.



C. I. LEWIS,





WM. H. STITE

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Plea Catalo	ase mail me my FREE copy of Ward ogue and Buyers' Guide No. 95.	l's New
Name		

# 2% Loss Against 47% Government Figures Indicate Value of "The Complete Dormant Spray



Our 8-year-old orchard at Kearneysville, W.Va. Dipped in SCALECIDE, root and branch, before planting and sprayed annually with SCALECIDE since. Cultivared for three years; in affalfa for five years (ell hay removed). Only fertilization light application nitrate of coda before blossoming in 1919 and 1920.

WE GUARANTEE that, if you will divide an orchard, your worst or best, in two parts equal in general condition, and for three years spray one part with SCALECIDE according to our directions and the other part with lime sulfur, giving the same sum-mer treatment to both parts, the part sprayed with SCALECIDE will be better than the part sprayed with lime-sulfur—in the judgment of three disinterested fruit growers—or we will refund the money you have paid for the SCALECIDE.

ACCORDING to U.S. census report, in 1910 there were 151,322,840 bearing and 65,791,848 non-bearing apple trees—a total of 217,114,688. In 1920 there were only 115,265,029 bearing trees—a loss of 47%, because in 10 years the non-bearing either became bearing trees or died. During the same 10-year period, in our own orchards we have not lost 2% in old or young trees, altho in 1910 one-quarter of a 3,000-tree orchard which we took over was dying and today we have 21,000 apple trees from 1 to 40 years old.

### Why Have We Not Lost 2% in 10 Years?

The answer is largely because our young trees were dipped in SCALECIDE before planting—apple trees, noot and branch; peach trees, tops only—and they have been sprayed annually with SCALECIDE ever since. SCALECIDE controls scale, fire blight canker, pear psylla and aphis—and it does more; it has an invigorating effect upon trees and foliage, insuring plumper fruit spurs and a better chance for fruit the following year. Reduce your losses—use SCALECIDE,

Read "your-money-back "Guarantee. Write for prices and more information. Address Dep't 11.

B. G. PRATT COMPANY 50 Church Street New York City



### IF YOU ARE THINKING OF BUYING SOMETHING

THE FIRST THING you do is to find out WHERE to get it, at a fair price and from a reliable concern—Isn't it? Wishing to be of real service to our subscribers—the following is a list of things YOU MAY NEED IN OCTOBER:

Automobile supplies Batteries Baskets Boxes Bags Barrels Belting Bunk houses Cement Canning outfits Carpenters' tools Cement mixers Cider mills Conveyors

Dynamite. Driers Electrical supplies Elevators Engines Fertilizer Furniture Graders and sizers Hot houses Insecticides Labels Lighting plants Ladders

Musical instruments Nursery stock Oils Pumps Picking devices Paints and varnishes Paint brushes Prunning tools Rat killers Roofing Rubber goods Scales Stoves and ranges Sprayers

Tanks Tractors Trailers Trucks Tags Tires Tree protectors Vacuum cleaners Vineyard and Fence posts Wall board Washing machines Water systems Wearing apparel

It may be that what you want is advertised in the advertising columns of this issue of the American Fruit Grower. If not, just check on the above list whatever you are interested in, return the list to us with your name and address d we will supply you with information as to the best means of obtaining it.

ADVERTISING DEPARTMENT

AMERICAN FRUIT GROWER

State-Lake Building, Chicago, Ill.

### WINTER FRUIT MEETINGS

Secretaries of horticultural societies and other organizations of fruit growers are requested to advise us of their meeting places and dates for listing in this column, particularly for such meetings as may be of general in-

### October Meetings

National Nut Growers' Ass'n, Mobile, Ala., October 12 to 14th. A. S. Perry, Sec., Cuthbert, Ga.
Twelfth Annual Citrus Seminar, Gainesville, Fla., October 4th and 5th.

November Meetings

New England Fruit Show, Concord,
M. H., November 4th to 8th. J. A.
Tufts, Jr., Asst. Sec., Exeter, N. H.
Vermont State Horticultural Society, Rutland, Vt., November 17th
and 18th. M. B. Cummings, Sec.,
Burlington, Vt.
Pacific Northwest Fruit Exposition,
Seattle, Wash., November 21st to 26th
Peninsular Horticultural Society,
Berlin, Md., November 29th to December 1st. Wesley Webb, Sec., Dever, Del.

December Meetings

### December Meetings

December Meetings

Idaho State Horticultural Society,
Nampa, Ida., in December or January.
Date to be announced later. I Lee
Truax, Sec., Boise, Ida.
Washington State Horticultural Society, probably at Spokane on December 5th or 12th. Date to be announced later. M. L. Dean, Sec.,
Wenatchee, Wash.
American Pomological Society, Toledo, O., December 7th to 9th. R. B.
Cruickshank, Sec., Columbus, Ohio.
Indiana State Horticultural Society,
Indianapolis, Ind., December 13th to 15th. H. H. Swaim, Sec., Lafayette,
Ind.

Ind.

Minnesota State Horticultural Society, Minneapolis, Minn., December 13th to 16th together with Minnesota Crop Improvement Association and Potato Growers' Association, staging the Minnesota Crop Show. R. S. McIntosh, Sec., University Farm, St. Paul, Minn.

Michigan State Horticultural Society, Grand Rapids, Mich., December 13th to 15th. T. A. Farrand, Sec., East Lansing, Mich.

Illinois State Horticultural Society, Champaign, Ill., December 20th to 22nd. A. M. Augustine, Sec., Normal, Ill.

Kansas State Horticultural Society, Topeka, Kans., December 21st to 23rd O. F. Whitney, Sec., Topeka, Kans.

Georgia State Horticultural Society,

Georgia State Horticultural Society, Semi-annual meeting at Athens, Ga, in January. Date to be announced.

Delaware State Horticultural Society, Baltimore, Md., January 10th to 12th in connection with the State Agricultural Society. S. B. Shaw, Sec., College Park, Md.

Virginia State Horticultural Society, Richmond, Va., January 10 to 13. W. P. Massey Sec., Winchester, Va. New York F. "Gultural Society, Exposition Park, Rochester, N. Y., January 11th to 13th. Roy P. Mc Pherson, Sec., LeRoy, N. Y. Ohio State Horticultural Society, Columbus, Ohio, January 31st to February 1st. R. B. Cruickshank, Sec., Columbus, Ohio.

Montana Horticultural Society, Stevensville, Mont. Date to be announced. J. C. Wood, Sec., Missoula, Mont.

### MORE WORK AHEAD

Probably no special type of farming, as generally practised, demands so much labor during the spring months as fruit growing, yet many of the operations generally done in the apring may be performed with equally good results during the early winter months, and especially with the present labor situation it behooves orchardists to move some of their practises two to five months ahead in the schedule of operations. This will result in making sure that the work will be dose, cause less worry, and result in more economical production.

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# Think what electric power and light would mean on your farm

Think of an electric plant which will not only deliver dependable current for cheerful light, but that has so generous a capacity that it supplies ample current to operate electric household and farm power appliances and running water systems!

That plant is the Kohler Automatic Power and Light, which produces up to 1500 watts (two electrical horsepower) of standard 110 volt electricity, automatically and without storage batteries.

### Cheerful Light; Time and Energy-saving Appliances; Running Water

Think what this would mean on machine, electric vacuum your farm. Think of the work which could be done by swift electric power, instead of the slow, monotonous, old-fashioned way. The Kohler Automatic will operateamilking machine, churn, separator, feed grinder, corn sheller, wood-saw and many other units of farm power equipment.

Think what this would mean in your home: the convenience, cheerfulness and safety of electric light—in the house, the yard, the barn and other outbuildings; the use of time and energy-saving household appliances, such as an electric iron, electric washing sweeper.

And electric power from the Kohler Automatic will operate a running water system, making possible a thoroughly modern home with kitchen sink and upto-date bathroom, promoting the health and well being of the entire family. No more pumping of back-breaking carrying of water from out of doors.

All these economies of time and energy are possible with the Kohler Automatic-the plant which brings to you all the advantages of city electricity with the same convenience.



No Storage Batteries to buy and replace.
Only battery is a small automobile type for starting engine.

Four-Cylinder Engine, remarkably free from vibration, means smooth operation and long life.

Automatic Start and Stop-A turn of any switch on the circuit starts or stops the engine.

Standard 110 Volt Current-Permits use of standard appliances (110 volt), which cost least.

1500 Watt Capacity-Ample flow of current for both power and light, without danger from overload.

Operating Costs Kept Low by automatic governor which tapers fuel consumption to current used.

Manufactured Complete in Our Own Factory, so that the well-known Kohler standards shall be maintained in every part.

Backed by Forty-eight Years of experi-ence in the making of quality products.



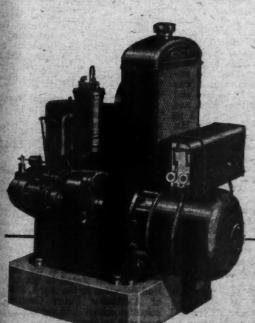
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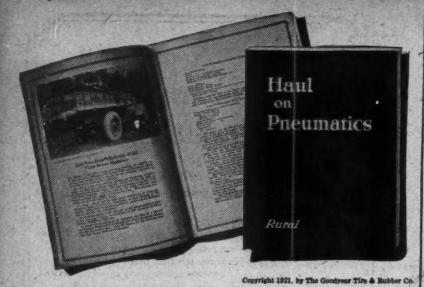
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# A Valuable Book on Farm Hauling-Free

SOME of the most interesting facts about pneumatic truck tires in farm hauling are published in an attractive book, entitled "Haul on Pneumatics - Rural."

They include the experiences of both general and specialized farmers in gaining top prices, protecting perishable produce, and making punctual deliveries in all-season hauling.

These reports of actual performance cover the wide variety of duty demanded of the motor truck in both on-the-road and off-the-road work, and as a body they furnish conclusive evidence of the special value of Goodyear Cord. Truck Tires in farm service.

The book pictures the advantages these tires possess, and explains the source of them. It records particularly the tractive power of the pneumatics under all-season conditions of road and weather, their ability to cushion the truck and the load, and their wide range of activity.

All farmers, of course, are interested in motorized hauling. Every progressive farmer will find in this book information that will help him solve his hauling problems. For a free copy of "Haul on Pneumatics-Rural" fill out the following coupon:

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# New Prune of Much Promise

Bud variations in deciduous fruits, which result in superior varieties, are of rare occurrence. The Coates 1418 prune, as described in this article, is one of the outstanding examples. Readers are requested to send to this office any information they may have about "freaks" that are observed in their own or neighbors' orchards.

BUD variation frequently is observed in plants, and in some species, highly desirable commercial varieties have originated as sports, particularly among florists plants of various kinds. Among fruits, and especially among deciduous fruits, such bud variations as occur, or as have been observed, have not varied sufficiently far from the parent stock to justify their propagation separately. Among citrus fruits however, bud variations are of frequent occurrence, and the notable work that has been done by Prof. A. D. Shamel in the improvement of oranges and lemons in California through bud selection is an outstanding example. UD variation frequently is ob-

through bud selection is an outstanding example.

But among deciduous fruits, there has recently come to light a most conspicuous bud variation in the little French prune, prune d'Agen, which is being introduced for commercial cultivation under the name of Coates 1418.

This prune is definitely known to have This prune is definitely known to have originated as a sport from the little French prune. And through distinct good fortune, it came to the attention of a man, Mr. Leonard Coates, who immediately saw its wonderful possibilities.

bilities.

Through the courtesy of the Oregon Nursery Company, Oneco, Ore., we are able to reproduce on the cover of this issue of American Fruit Grower a picture of this new prune in its natural size and color. A brief description of this prune was given by Prof. J. L. Collins of the University of California in our issue of last February, and how it came to the attention of Mr. Coates.

### Considered a "Freak"

Mr. Coates.

Considered a "Freak"

In a booklet recently issued by the Oregon Nursery Company Mr. Coates tells how he discovered this prune. "Some eight or nine years ago," writes Mr. Coates, "a friend called my attention to the fact that a large variety of French prune had been found fruiting near Saratoga, Santa Clara county. As was customary, the writer at once made an investigation and found that Mr. F. B. Smith had growing on his place a large prune of the French type. This prune was said to be a freak or bud sport found growing on a French prune tree. The original tree had been dug up and destroyed, but fortunately some buds had been taken from it and grafted into another tree so that the variation was preserved. Noting the large size and excellent qualities of this variant, and also its tendency to reversion, I at once made an agreement with Mr. Smith for the exclusive propagating right and at once began the slow process of eliminating the reversions to the original French prune by selection of the buds that showed only the true form of the variation. After bringing it into fruiting on our grounds, further isolation, selection and elimination was followed up on a ten-acre or-chard developed from true forms of the variety, until today we have this ten-acre block in full bearing grafted in alternate rows with the best strain of the French prune for comparison purposes."

The fruit of Coates 1418 prune is tensibled by Mr. M. McDonald as

purposes."

The fruit of Coates 1418 prune is described by Mr. M. McDonald as "averaging twice the size of the old French prune with no small fruits on the tree. The fruit is roundish, rather than pear shaped, of the same royal purple color of the French. The texture of the flesh is almost identical, with a much higher sugar content. So uniform in size is the fruit and of such heavy drying quality that the cured prune is more than one-half the weight of the ripe fruit, giving the grower a

return that will run almost in the twenty to thirty prunes to the pound class. It is right here that Mr. Coates has standardized the prune industry at its source. In this new variety he has eliminated all of the small sizes in the growing of the product, doing away with the endless work of sorting and grading necessary in the old variety to bring a small portion of the grower's crop up to the first grade of quality and standard."

Fruit Large and Heavy

Fruit Large and Heavy
But the commercial prune grower interested in the merit of the prun for drying, and here it is that shrink age in weight through the evaporation of the water within the fruit count mest. The little French prune will produce 100 pounds of dried produc from about 250 pounds of the frea fruit, depending on the water and sugan content of the fruit. In the trials that have so far been made with Coates 1418, 200 pounds of the frea fruit will make 100 pounds of the prunes. In addition to this, the size of the new variety runs so uniformly between 25 to 50 fruits to the pound that a better price can be had from this item alone. The little French prune ranges all the way from 40 to 70 fruits to the pound. The new variety ripens a few days ahead of the old.

In point of quality, the new variety

In point of quality, the new variety is somewhat superior to the old, not only because it has more fiesh and more sugar, but in the flavor of the fruit itself. Specimens of the dried fruit which were sent to the office of American Fruit Grower had a texture and flavor that was particularly pleasing. The cooked fruit, as compared with the ordinary variety was very delicious as against just a good prune flavor. From the very evident merits of Coates 1418 prune, it is destined to occupy a position of great importance in the commercial prune producing regions of the United States. Its quality is but one item that will bring it forward, while the money value of its fruit is of even greater importance. In speaking of this, Dr. F. M. Coleman of the California Prune & Apricot Growers, Inc., stated at a gathering of prune experts in the orchard of Mr. Coates, that should the entire acreage of prunes in California be of the prune propagated by Mr. Coates, it would increase the value of the annual crop at least 115-000,000.

Very few of the commercial varieties of deciduous fruits have originated as bud variations, or sports, as in the case of Coates 1418 prune. But such variations do occur, and they are well worth looking out for. It is at the theory that bud variations do eccur that the "pedigreed" tree idea is based. When it is possible to secun such marked improvement through bud variations in any of our deciduous fruits, starts on a long journey. As Prof. E. B. Babcock of the University of California stated in his article of Bud Selection in the April, 1921, issue of American fruit grower to be on the look out continually for one of the rare occurrences which brings into the world a fruit superior deciduous fruit trees by means of performance record and progeny tests." Even so, share eyes often are rewarded, and it is well for every fruit grower to be on the look out continually for one of the rare occurrences which brings into the world a fruit superior to any alread in existence.

### Better Bushels Baskets

(Continued from page 5)

by the receiver as they are readily tached or removed and do not inter-me with the proper inspection of ckages, while en route or at destina-on. Wire fastenings are not necesry for carlot shipments properly aded, if the handles of the baskets bent inward.

Grade and Pack Carefully

he tendency today is toward the of smaller containers for apples. is one reason why the box has ne so popular in the west and the



backet in the east. The basket, however, can be packed at less expense han the box. No wrapping is necessary in packing basket apples. Attention should be placed, however, on creful grading, sizing and packing. There is no finer package for displaying apples than the basket. The connectic circles in a good, ring faced artic circles in a good, ring faced stet, stem to calyx method, showing high coloring of rosy cheeked ap-makes a most attractive appear-

Basket manufacturers are beginning to realize the demand for more at-



This Basket of Apples Traveled 1,000 Miles By Express

inclive shipping containers. Other things being equal the attractive container will outsell the less attractive. The attractive labels on canned goods, reakfast food, cartons, western appleones, orange boxes and other containers give the buyer the impression the care with which the contents we manufactured or packed. Texas eaches in baskets with colored hoops anought better prices than in the reguthes in baskets with colored hoops ght better prices than in the regulasket. White baskets made from the veneer are very attractive. It slats cut from magnolia or tuprovide a fine printing surface trade marks, brands, names and eas of shippers or other informademanded by customer. Factories consider all of these factors as zers are beginning to realize their trance and are becoming more ting in their requirements.

# A new and improved **Nicotine Sulphate**

-for complete control of aphids, thrips and similar sucking insects

THE difference lies in the accurate and scientific methods of manufacture—a big difference too. Hall's Nicotine Sulphate is prepared under scientific processes which secure an even composition and absolute purity. This means that you can get a fine misty spray from Hall's, which of course is necessary to thoroughly wet every insect.

### Hall's Nicotine Sulphate, 40%

Nicotine is the most effective known poison against the soft-bodied, sucking insects. And Hall's Nicotine Sulphate is guaranteed to contain 40% pure nicotine.

Due to its high concentration it is very easy to handle. One part Hall's to 800 to 1000 parts water makes a most effective spray. Diluted according to these directions its cost is less than two cents a gallon.

> Hall's Nicotine Sulphate may be combined with Arsenate of Lead, Lime Sulphur, Bordeaux Mixture or oil emulsions,

In 1/2 pound, 2 pound and 10 pound tins. If your dealer cannot supply you write us direct.

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NICOTINE

Hall's Nicotine Sulphate (40% nicotine guaranteed).

Hall's Tobacco Dust (1% nicotine guaranteed).

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They are safe from the attack of small animals that gnaw and kill. Don't expose your young trees to danger this winter. Excelsion Wire Mesh Tree Guards placed around them will make them safe. Durable, galvanized to prevent rusting and low in cost. Write for booklet A for detailed information.

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ARSENATE ARSENATE





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The Peck, Stow & Wilson Co.

Cleveland, Ohio

# Packing Apples for Export

By Frank George, U. S. Department of Agriculture

The Editors of American Fruit Grower will be very glad to hear from any of our readers who may contemplate making foreign shipments of their fruit. It is better to ask questions beforehand than afterward.

BSERVATIONS made by representatives of the United States Bureau of Markets in the handling of export apples from the American seaboard to their arrival on the other side have disclosed many targetime conditions and pointed out American seaboard to their arrival on the other side have disclosed many startling conditions and pointed out certain improvements and precautions that can be made by the shipper. To be sure, the handling methods employed are not uniform for all docks and all vessels, and the details of the bureau's investigation in a single instance should not be assumed to apply to the whole export apple business. However, they are indicative of the ease with which fruit may be damaged by rough handling.

In transferring the packages from the dock to the boat, ordinary rope nets were used, sixteen barrels in one load constituting a "swing." For boxes and bundles a rectangular platform was placed inside the sling. This platform prevented heavy strain on the bottom packages but there were 39 bundles or 42 boxes in each load and with the four corners of the sling drawn into the crane hooks at a sharp angle the upper boxes were sometimes crushed, or at least twisted out

angle the upper boxes were some-times crushed, or at least twisted out of shape. As each load reached the floor of the hold and the pressure was

noor of the hold and the pressure was released the corner stacks and some-times the whole side of a load fell over on the floor. There was also careless-ness in lowering the sling through the hatch openings, the load sometimes striking the sides of the hold with sufficient force to break some of the

packages.

The roughest handling was given the boxes by stevedores on the dock and by the men handling the packages in the hold of the vessel. It seemed a point of honor with these negro stevedores to display their physical strength by tossing the boxes around sufficiently to start the nails, and in the case of weak shooks to break the boxes. Each stevedore had a platform or stool of a dozen boxes. There were five such platforms spread over a distance of 35 or 40 feet. A stevedore would pick up a box, raise it to the height of his chest, face about, take a step or two in the direction of the next platform and throw the box down upon it with terrific force. When one of the stevedores delayed to tie a shoestring or to take a fresh chew of tobacco the boxes on his platform accumulated, some of the packages fell over on the floor and the fruit received another jolt.

Why Packages Break The roughest handling was given

Why Packages Break

Similar hendling was exercised at destination, but there it was the bar-Similar he idling was exercised at destination, lut there it was the barrels that suffered most. The boxes and bundles were unloaded by a platform sling, 18 boxes to a load. For unloading barrels there was a tackle of eight loops of rope or chains suspended from a spreader frame two feet square, with two loops at each corner. Each loop or tackle had iron dogs or claws which were hooked over the chine of the barrels. A hook was placed at either end of each barrel, and there were eight barrels to a load. While one load was being swung over the ship's side the stevedores in the hold rolled out barrels from all directions, thus accumulating 25 or 30 barrels in the square of the hatch. When the tackle was lowered again each stevedore seized a loop and hooked it on to whatever barrel happened to be conveniently near. The eight hooks were attached to any miscellaneous eight barrels among twenty-five, When the signal to hoist was given, the tackle tightened with a jerk and not only the eight barrels but all the other barrels in contact with them were lifted clear of the floor, the unattached barrels falling free. When the barrels were crowded too tightly the weight was too great to be carried by the chines and the hooks pulled through, slivering the chine and breaking the top hoop. In some instances the chine held but the hoop sprang sufficiently to release the barrel head, and the apples rolled around the hold. Sometimes the staves of barrels raised through the hold were crushed through striking against the hatches. In a single hold more than 100 barrels had to be recoopered. coopered.

Ship Hard Apples Ship Hard Apples
From the observations of many shipments in American and foreign markets it was apparent that apples for export should be hard, and should as a rule, be in the same stage of maturity as when picked for storage. Mellow apples should not be exported as they are likely to be overripe upon arrival. Careful handling should also be exercised to prevent bruises and skin pricks inasmuch as such injuries sometimes develop deterioration and decay in transit.

skin pricks masmuch as such injuries sometimes develop deterioration and decay in transit.

Apples for export should be picked earlier than apples for the domestic market because of the longer time required in transit. Earlier picking insures better carrying quality, and earlier shipments realize the best prices. To secure early shipments the outside of the trees should be gleaned as soon as the apples show sufficient color. This also distributes labor and gives the inside apples a better opportunity to color and take on size.

Grading is especally important The majority of shipments to Europe are sold in the fruit auctions according to samples displayed in the auction sales rooms, and if the grade and size are not uniform, and if the apples are better than the general run, the buyer has the right within twenty-four hour to reject the fruit or to demand an adjustment, according to the rules

better than the general run, the buyer has the right within twenty-four hours to reject the fruit or to demand an adjustment, according to the rules governing sales. A rejected lot cannot always be resold at its true value because of the stigma of rejection. On the other hand, if the samples are not as good as the general run, there of course are no adjustments and the shipper loses.

Medium and small size apples are preferred by the European market, and the apples in a given barre should be uniformly sized. Aside from the market preference for uniform sizing, this method also is an aid to tight packing. Experience has shown that for the large varieties such at the York Imperial and Newtown Pippin, two sizes of A grade, or No. I are best, viz.:—2% inch to 2½ inch and 2½ inch up. If possible the larger sizing should be held to 2% inch maximum. The so-called jumble pack should never be sent, inasmuch as the expenses of freight, insurance and handling are such that in the long runthese poor packs will not show a profit.

Face Honestly

In barrelled apple shipments

Face Honestly

In barrelled apple shipments corrugated caps should be used in the face and tail of the barrel, as these protect the apples from bruising or crushing when the pressure is applied. The facers should fairly represent the average size of the pack, and should be placed in circular form with stems against the head. The second layer should be spotted to cover the space between the facers. As the barrel is

(Continued on Page 19)

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### Russet Article Arouses Dr. Ross

(Continue from page 4)

ore fruit of higher grade; and that imately our scientists will be able work out for us practicable method pest control, the expense of hich will allow their use generally me sure that the Florida Citrus Exange, as a co-operative selling ormization, will always be in the forest in any movement booking to the ger production of fruit of better ades, just as it has led in the past, it has not been the only selling ormization to take definite action in matter.

My own conclusions are that we are erring of some credit for what tops we already have taken in this mortant matter, but that it is unite to attach to the Florida Citrus or conditions where an equal if not mater responsibility must rest with the organizations.

True Co-operation

speculative buyers, generally speaking, are in the market only to purchase fruit of better grades. They may refuse to handle fruit of lower grades by the simple act of evading grehase. This the Florida Citrus knehange may not do if it is to fulfill its true co-operative function. Therefore if the percentage of russet truit handled by our organization be higher than that of speculative organizations in the field, I do not feel that the Florida Citrus Exchange is in any way blameworthy. Also if there he some growers who continue the production of considerable amounts of fruit of russet and other lower grades in face of diminished returns from the marketing of such fruit I do not feel that responsibility may be fastened upon the Florida Citrus Exchange even though that fruit may be sold by it for these growers. Co-operation does not put a premium upon lack of affort. True co-operation means that each shall participate in the rewards in proportion to his effort and the quality of his production. Co-operation has nothing in common with socialism which would dictate the movements of the individual and endeavor to equalize the status of all.

Pardon me for writing you at such length. I only trust that in this letter you may find some points which taken in connection with your article may lead you to see why we feel that, even with the best and most friendly intentions, you have given us a larger reponsibility than we feel justified in assuming while failing, perhaps, to give us credit for what efforts we may have made in the direction of leading growers toward the production of fruit of better appearance.

Yours very truly,
FLORIDA CITRUS EXCHANGE,
By J. H. Ross, President.

The Weak Spot

Possibly I did not give the Florida
Citrus Exchange sufficient credit for
the excellent work it did in marketing
the miserable looking russet fruits
that were offered, and getting more
for them than was obtained by independent shippers. I am a believer in
the Florida Citrus Exchange, and feel
that every citrus grower in the state
thould be a member of it and enjoy
the facilities that it affords. But the
purpose of my comments was, to dimet attention to the weak spot in the
original statement of Dr. Ross, and
the spot that will, in my opinion, do
much to strengthen the organization,
add wealth to the state, and advance
the citrus industry of Florida.

The Florida Citrus Exchange is one
of the outstanding co-operative martering organizations in the United
States. In the marketing of last
year's crop it made a great achievement in the prices obtained for the
(Continued on page 17)



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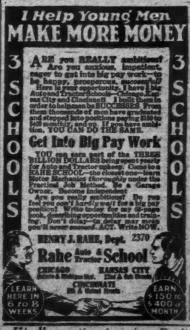
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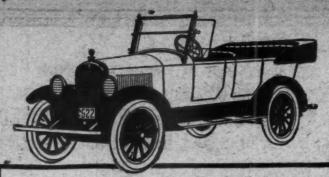


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# Some Fall Work to Be Done

. By E. H. Favor, Managing Editor

By E. H. Favor,

THERE is a general tendency for fruit growers to delay several orchard operations such as pruning, plowing, dormant spraying, planting and road building until spring, when some of these practises might well be done during the early winter months, thus relieving the great congestion and piling up of work in the early spring months when there is a rush to finish all these operations before growth starts. Consequently, we very frequently hear the expression: "I wanted to do this last spring but had so much to do that I couldn't get to it."

At this time, when the farmer is confronted with a limited supply of competent farm labor in many parts of the country, it is well for the fruit grower to so plan his work that his time may be used to the best advantage in carrying out the several orchard operations, and it seems to me that the best solution to the situation is a better or more even distribution of the more laborous orchard operations throughout the year.

Get Fall Plowing Done

### Get Fall Plowing Done

There are certain practises, such as the application of commercial fertilizers, turning under of cover crops, spraying and pruning, that are essentially seasonable operations, and time must be allotted in the schedule to do these jobs

in the proper season.

There is seldom an early winter that will not permit some plowing to be done before Christmas, yet I have visited orchards of several hundred acres in which not a single furrow was turned until early spring and still these owners had planned to do enough plowing to keep their teams or tractors busy for several weeks. With many of the lighter soils, spring plowing is preferable, but for the heavier ones, fall or early winter plowing is more desirable than that done in the spring, because alternate freezing and thawing tends to break up the lumps and put the soil in better condition and permit it to be worked earlier in the spring. In some sections, there may be only a few days in November and December that will be suitable for plowing, but every day's work done at this season means a day saved for some other essential spring operation, and usually makes possible the cultivation of a larger acreage than would otherwise be possible.

There seems to exist a general prejudice against early winter pruning, but in most cases it is not well founded. Some drying out of the cut ends of twigs may occur, but this is only of a serious nature with young trees and some of the more tender fruits in severe climates. In most sections, the damage resulting from early winter pruning of bearing apple trees is practically negligible even in the states subject to severe winters. in the proper season.

There is seldom an early winter that

### Don't Sidetrack the Pruning

Don't Sidetrack the Pruning

Every fruit grower would like to prune his trees, but if he delays the work until spring, some of it will usually be sidetracked in favor of other operations considered of more importance at that time. In case one has a bearing apple orchard, I would suggest that pruning in it be started any time after the first of November. This could be followed by pruning the bearing pear trees, then the younger pome fruits, reserving the stone fruits until late winter or early spring. We usually prefer to delay pruning peaches and other stone fruits until we can determine if adverse winter temperatures have injured the buds or wood, in which case heavier pruning is usually practised. However, if one has a very large acreage, it would be more economical to start work on the older stone fruit trees earlier in the season.

I do not mean to infer that pruning can be consecutively practised from day to day in all sections during early winter, but certainly the grower should take advantage of such days as may be favorable for such operations. Pruning when the wood is frozen is apt to result in more or less damage and during such periods indoor jobs are much more to the liking of most of us.

Fall Spraying for Scale

Fall Spraying for Scale

Dormant spraying, for the control of scales, is usually considered a apring operation, the best time for the application being just before the buds expand, but many successful orchardists find it more economical, from the standpoint of labor and teams required, to apply it in late fall or early winter. Certainly late fall or winter spraying, in a thorough manner, is much more effective than the hurried, between-shower applications such as many orchards receive in early spring. Surely many growers can well consider applying the dormant spray at this season and thus safeguard fruit that might otherwise not be benefited by the dormant application.

In most parts of the country, fall planting is as successful, or perhaps more so, than spring planting. The laying out and planting of orchards involves considerable time, and if fall planting is successful in your section, it will result in leaving several days for other timely practises during the busy, early spring weeks. Again, I have seen spring rains delay planting operations until so late in the season that the trees did not have time to become thoroughly established before dry weather, thus resulting in considerable loss.

Road construction through the orchards is one of the major jobs in some

considerable loss.

Road construction through the orchards is one of the major jobs in some of the more mountainous sections. It is a type of work that can usually be done at any season of the year, and I have known growers to keep men on this one line of work throughout the greater portion of a season. Even though this work can be done at any time, it seems that good orchard management would demand that the greater portion of the construction and repair work be scheduled for the fall and early winter months. Because of heavy rains and the inclination of some soils to wash, some of the repair work must be done during the summer months.

### THE FOLWELL APPLE

THE FOLWELL APPLE

The executive board of the Minnesota State Horticultural Society and Professor W. H. Alderman, chief of horticulture at University Farm have just named a new apple developed at the Minnesota state fruit breeding farm, for Dr. W. W. Folwell, the venerable former president of the University of Minnesota.

The "Folwell" is a seedling of Melinda. The tree is vigorous, free

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Dr. W. W. Folwell and the Folwell Apple

growing, producing a well shaped head with strong branching habit. It is an annual bearer and hardy as far north as the fruit farm. In form it is round and of large size like the Northwestern Greening. In color it is greenish-yellow, blushed with red, or in well colored specimens, nearly fully red. The flesh is said to be tender and pleasant and the quality good. This apple will keep until mid-winter, as somewhat longer than the Wealthy-Until its recent christening with the name "Folwell," this apple has been known only as "Minn. No. 237."

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ne Minne-ciety and chief of

### The Berry Season of 1921

(Continued from page 5)

(Continued from page 5)

Under normal conditions, prices on loganberries probably range from 5c to 9c a pound. The past season the market opened at 2½c. In some cases 3½c was paid, but the growers were given long term notes in payment for their crops. Conditions looked anything but rosy to the growers. As the geason advanced, however, the market stiffened. The low initial price enabled juice manufacturers to buy at least a thousand tons. The dehydrated market used a tremendous tonnage, many growers dried their berries themselves, and the latter part of July and early August the was no difficulty experienced in selling all the loganberries one could secure, for at least 4c a pound.

The barrelled market stiffened tremendously, and the canneries suddenly realized that they had let a good bet go by. The lower prices, however, will not be an entire loss to the growers this year, because it means the development of a market. Many people use dehydrated berries, many drink loganberry juice, and the market for another year will expand.

The acreage of loganberries in the Pacific Northwest is not far from 10,000 acres today, with a prospective crop in sight for 30,000,000 pounds. A new outlet must be developed. There is one cloud in the loganberry horizon, and that is the blackberry. With an ever increasing tonnage of wild blackberries in the Pacific Northwest, and a big crop in the Appalachians, there will be a time when loganberries are going to meet very strong competition.

Red Raspberries

The red raspberry has always been

Red Raspberries

Red Raspberries

The red raspberry has always been sold at a premium. Very few sections of the country can produce this berry on a good commercial scale. There has been no trouble up to this year, to dispose of berries at a good figure. This year, however, the opening price was 6c, a price in which there is no profit to the growers. The cost of handling, picking, etc., is greater than that of the loganberry. Raspberries will always have to bring at least a 3 cent differential over blackberries or loganberries, to be grown with the same degree of profit. However, the raspberry market has stiffened wonderfully. The growers sold a quantity at 6c, developed good markets, and many were shipped east, or to markets on the Pacific Coast. As a result, the season is going to be profitable. Some barrelled berries will probably bring 15c a pound. What is true of the red raspberry can also be said of the black caps.

Blackberries

Blackberries

At this writing blackberries are just ing harvested. Will history repeat self? Growers are offered 5c today or blackberries. Will the season wind with a much better offer? It would if the same conditions prevail the next thirty days that have in the past month.

in the next thirty days that have in the past month.

There seems to be a very bright spot in the horizon for berry growers, and a pretty good lesson can be learned from last year's experience. In the first place the tonnage canned was very limited. Prices have advanced very rapidly and it looks like the entire canned pack will be sold in the near future. To show how the berry market is worked: Strawberries were quoted as low as \$2.40 a dozen canned. Today they will easily bring \$3.00. Six weeks ago Bartiett pears bought for \$2.40 a dozen, will today bring \$3.15, and possibly in the next thirty days will bring more. The prices of canned goods, fellies, and iams, have advanced steadily in the last two months, and prices show that we will go into the season of 1922 with a clean slate. That being true there should be a very heavy demand

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al 8-16 \$900

This price is about one-fourth less than the price at which the 6-16 sold prior to March of this year. The new figure is the lowest at which it has ever sold. The new price includes all the necessary equipment—platform, fenders, governor, bele pulley.

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At \$1,750 this tractor's reduced to a figure ower than has ever over offered before. The man who needs a plow tractor cannot and a better investment han the 15-30 at this wice.

for berries of all kinds, meaning that growers should take care of their plantings, not neglect them, and should expand their plantings.

Another lesson learned this year is that whenever there comes a crisis in the fruit industry, the grower has to carry himself, be his own bank, or financier. The growers getting along best this year are the organized growers, such as the Oregon Growers Co-operative Association. This organization not only found a market for all their tonnage, but the first few weeks of the season canned about 100 tons of berries, and similar products rather than to sell at low figures, with the result that the growers will get much more money.

much more money.

At Gresham and Springbrook, Ore., there are little associations of berry growers who shipped most of their berries fresh or canned and they are going to get by in good shape. At Puyallup, Wash., the canneries were not taking much fruit, so the growers formed a new association, operated a cannery of their own, and shipped about 100 cars to market.



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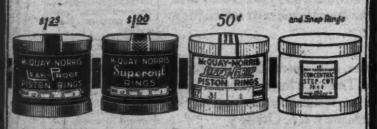
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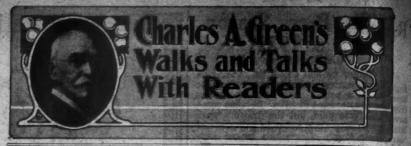
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Hints on Gathering Fruits

A BOOK might be written on the subject of harvesting the apple crop or the pear crop, but I simply have room for a few suggestions. Apples and pears do not ripen at the same time every year. Much depends upon the weather and the season. It is not difficult to tell when the fruits are ready to nick. The old rule was is not difficult to tell when the fruits are ready to pick. The old rule was to pick by lifting the specimen of fruit and if it parted from the branch it was ripe., Perhaps a better method is to watch for fallen fruit under the trees. Sometimes the color is the best indication. It is well to permit the fruit to remain as long as it is safe for every day adds to the size of the fruit and to its color and to its quality. Black seeds indicate maturity.

I do not know of any variety of pear that will develop quality if allowed to

I do not know of any variety of pear that will develop quality if allowed to remain on the tree until fully ripe. Ripe pears do not stand shipment.

With apples there is a longer period of maturing than there is with pears. Apples are generally longer keepers than pears and can be picked during a longer season. Even with winter apples some should be picked earlier than others. In deciding when to pick the apple crop you must have in mind the strong gales that come in late fall, that is the latter part of October but which vary in dates of arrival. Such that is the latter part of October but which vary in dates of arrival. Such winds are destructive for much superior fruit is borne to the ground in one of these storms.

The old practice is to leave the apples in piles in the orchard on a mat of straw or grass when picked. The

The old practice is to leave the apples in piles in the orchard on a mat of straw or grass when picked. The advantage of this method is that the fruit colors beautifully when thus exposed to the sun but, the danger is in the ripening of the fruit when thus exposed to the warm sunshine. Most orchardists now place the apples, immediately after picking without any exposure to the sun or wind, in barrels. After barreling the barrels should not be piled in a mass where there is little ventilation. They should not be left exposed to the sun.

I have noticed that a little bruise on an apple is not serious if the skin is not bruised. Nature provides a tough, spongy substance under the bruise which protects it from decay and yet great care should be taken when picking apples that the apple is not bruised, for every bruised apple injures the grade.

How to Plant the Strawberry

A PATRON once ordered ten thousand strawberry plants. The first five thousand were set before I learned how he was doing the work of transplanting. When I delivered the remaining five thousand plants I went over the plantation to see how the work was being done. I found that one man scattered the plants along the rows far in advance of the man who did the planting. The plants were permitted to lie on the surface of the soil until they had lost a large part of their vitality. We told the owner this was not the correct way to plant them. He was much surprised stating he had obtained the services of an experienced gardener.

But the second lot of five thousand plants were planted according to my instructions and were not exposed by being dropped on the soil far in advance of the planter.

Later I saw this patron and asked Later I saw this patron and asked him how his strawberry plants were succeeding. He said the first five thousand that were scattered along the row and allowed to lose a portion of their vitality were a failure whereas the second lot of five thousand which were partied according to my instructions and not allowed to lie exposed on the soil were a success.

My advice in planting the strawberry is to carry the plants in a pail which has an inch or two of water in it. The planter takes one plant out at a time from the pail and plants it before it has an opportunity to dry out.

Old People

Old People

Do You understand old people?

Probably you do not and never will until you yourself can be classified as an old man or an old woman.

Long experience has taught the old man to be incredulous or pessimistic. Seeing how easily fortunes are dissipated, the old man holds more firmly on to his hard earned dollars.

The approach of old age is one of the saddest experiences. While we are all doomed to perish and to be laid beneath the daisies, while we are all from birth condemned to the death penalty, it must come to the aged man first. What a contrast between this thought of the old man and the feeling which we have in youth that we shall never perish. Here you have the two extremes, one optimistic and the other pessimistic. How sad for the old man to feel his strength of body diminishing. How sad for the old man to realize that his mental faculties require more rest each returning season.

What shall I do if my beloved wife

minishing. How sad for the old man to realize that his mental faculties require more rest each returning season. What shall I do if my beloved wife should first depart into the unknown country? Such an event would break up my home unless I am fortunate enough to gather into my habitation younger people, but even this would not take the place in the homemaking now so successfully accomplished with my long-lived companion. Some one has said that if the husband dies first it is not so serious. When the wife dies first the husband will have more difficulty, for, some one has said, who wants an old man around the place, that is to say the old wife about the place after her husband has departed is less serious than the opposite. The old question "If a man die shall he live again," is a more vital question for the aged than for the youth.

Rats! Rats! Rats!

Rats! Rats! Rats!

WE ARE told that there is danger off the face of the earth by rats. Certainly they are the greatest menace of anything in the animal or vegetable kingdom. There is nothing that breeds so fast. They breed six to eight times a year. The young are carefully cared for by the parents. The best method of fighting rats is to leave no food where they can get at it. Rats will not remain long in a factory, dwelling or barn where there is no food available, but how can we keep our granaries and barns free from rat food? The remedy would seem to be continual fight with traps and poisons, cats, dogs and ferrets. It is the brown rat that is most dreaded of all. He has actually taken possession of the earth not only, but of the ocean, in which he rides in state through storm and calm.

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### asset Article Arouses Dr. Ross

L(Continued from page 13)

tit handled. But what would have the profit to the growers if their had been sprayed as it should been? While Dr. Ross is absovered to the growers if their had been sprayed as it should been? While Dr. Ross is absovered to the grower that aying has shown a tremendous inseein Florida during recent years," still very far from being what it to be, or what it can be. Last to to be, or what it can be. Last to volume of russet fruit proves Enough is known about pest confine Florida to having about a tredous improvement in the quality be fruit that is produced, if this mation was just put into use estly and sincerely, with the lite object in view by each grower his spraying was being done for primary object of making a better the citius. Evengment is so admires

the from his crop.

The situation is so urgent, and the rida Citrus Exchange is so admiry situated for driving the imporce of it home, that I feel keen dissintment in the concluding state of Dr. Ross that I have given m a "larger responsibility than we justified in assuming." Surely Just a few words from Dr. Ross is original statement giving direct ourgement to the genuine need more thorough and timely spraywould have saved the day. But as did not do it, others in addition to self, have done so, and who knows that even greater emphasis of the property of the property

Much of the russet on citrus is produced by the rust mites during the
desing months of the growing period.

Bight now they are at work lowering
the grade of the fruit in many groves
a Florida that have not been well
prayed. The dry weather that has
revailed this summer has favored
their multiplication. And along with
the rust mites, the white fly is again
tive as well as the purple and red
cales. These latter, while devitalizing pests on the tree and destructive
anoth to drive the most careless
rower to spray, do not so effectively
free the fruit into lower grades as
the rust mites.

force the fruit into lower grades as to the rust mites.

It would seem that such a highly efficient and serviceable organization as the Florida Citrus Exchange would take pride in publicly advising their numbership of the money value of the time through their horticultural department. To do so would not only issuen the selling effort on the part of the Exchange, but would increase the motion of the members and give added mestige to their splendid trademark "Sealdsweet."

### CLEAN UP THE PEACH **ORCHARDS**

Serious infestation of peaches again as season with curculio and brown of has shown two things, states Prof. A. McClintock of the Georgia Ex-teriment Station.

First that spraying or dusting alone mot be depended upon to control spests. Second that orchard sanidion has proved of great value in a control of both brown rot and realio. By orchard sanitation we an the removal or destruction of eased fruit and branches and the m thickets, weeds, etc., where curio may pass the winter in safety. Some growers who had had fruit in 20 cleaned up their orchards right for the crop was harvested, using set care to remove rotten fruits m the trees and from the ground, is was followed by plowing to turn to could hibernate. After the was had fallen the trees were med using care to remove twig there caused by the brown rot true passing from the decayed

Over 600,000 **Owners** 



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fruits into the twigs. Wild plum thickets in or near the orchards were dug up and burned to destroy the places where culculio feed and breed early in the spring.

Orchards which were thus cleaned up and then given from three to four applications of spray during the season have produced high grade fruit in 1921 with a very small percentage of wormy and rotten fruit as compared with the season of 1920.

Orchards which have been equally sprayed in 1921, but which did not have the sanitary measures applied in 1920 following the harvesting season, have shown a high percentage of wormy and rotten fruit this season, thus proving that spray or dust alone cannot be depended upon to control these pests.





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When you do not find in the reading columns of American Fruit Grower just the information that will help you in solving your particular fruit growing problems, write to our Editors. They will gladly respond by letter,

### Fall Planting

Would you kindly advise me if it is possible to transplant a Wealthy apple tree about five or six years old without harming it? It is not bearing. Would you advise planting a new tree from the nursery instead, and what time of the year would you transplant or plant trees in this vicinity? I always preferred fall planting but last year several trees I planted seemed to be winter killed.—A. C. A., Illibois.

ways preferred fall planting but last year several trees I planted seemed to be winter killed.—A. C. A. Iluffoia.

IT MIGHT be possible to transplant this Wealthy apple tree, but it would be a very severe shock to it and you could not be sure of its living. If the Wealthy apple tree is located where it is necessary to cut it out, it would be all right to take a chance in transpanting it, but if it can be let stand in its present place I would certainly not attempt to transplant it. It would be much better if you would get a good, vigorous nursery tree and plant it in the new location and let the Wealthy tree stand. However, after careful consideration, if you decide to attempt to transplant the Wealthy tree, it should be done in the winter time following the method used in transplanting large shade trees. Cut a trench in a circle three or four feet out from the trunk of the tree and then digging sloping under toward the center of the tree so as to make a large ball of earth which will freeze and move while frozen. It will require special equipment to get this tree out with the frozen ball and transplanted to the new location on a sled.

In your see all planting is recommended as the tree becomes established during the winter and fall and is ready to start growth at the first signs of spring. The Missouri Experiment Station in some experiments with cherry trees, found that they got a much stronger growth and a much larger percentage of trees to live by fall planting than by spring planting. I always advise fall planting wherever possible except in the far northern sections.

### **Sod Mulch and Cultivation**

Considerable has been said lately about sod mulch system in orchards. Will you kindly explain to me its process and the relative value as compared with cultivation.—H. G. K., Indiana.

THE sod mulch system has been explained in former issues of AMERICAN FRUIT GROWER. There are certain locations where the use of sod mulch system is advisable, particularly on very steep land where soil is inclined to wash. Some people make the mistake of considering sod mulch system as simply a system which allows them to grow hay and to cut it off as feed. This is entirely wrong.

By the true sod mulch system, the crop is allowed to grow and then is mowed at frequent intervals and let lay on the land it decays and goes back to the soil as plant feod. There has been considerable controversy between the sod mulch advocates and the cultivation advocates.

In my opinion they are both right to a certain extent and both wrong to a certain extent. There are some locations where cultivation is best and some locations where sod mulch is best. A combination of the two gives very good results—that is, using sod mulch between rows and then cultivating in strips along the tree rows, and at the last cultivation about the

middle of August, sow some cover crop like rye in the tree rows and this will prevent washing during the winter and spring. The following spring plow under the rye in the strips and cultivate again.

The sod mulch system on steep land has become even more popular since nitrate of soda or sulphate of ammonia have been used as quick acting nitrogen fertilizers. These fertilizers insure vigorous growth on the trees and at the same time, the sod mulch keeps adding humus to the soil. In changing from the sod mulch system to cultivation, one has to use care because in sod mulch the roots of the trees will grow closer to the surface of the ground and if you plow very deep at the beginning, it will kill a let of the roots. It is advisable to look at all factors in your own orchard and then come to some decision as to which system is the best.

### **Applying Fertilizers**

Applying Fertilizers

Will you inform me whether application of fertilizers close to and against tree trunks is likely to be injurious. In my orchard of more than 1200 apple trees ranging from six years to one year, I notice some of the dider trees have root rot or coliar rot and I discovered some time ago that fertilizers were frequently thrown too close to the tree, or thrown against the tree and of course, they do no good at this particular location and might be very injurious in aggravating if not actually producing troubles referred to. We have used at different times considerable acid phosphate, raw bone meal and nitrate of soda and I am led to believe that all this fertilizer should be kept at least three or four feet from any tree five years or older.—M. W. H. Georgia.

COMETIMES certain fertilizers

SOMETIMES Sometimes certain fertilized thrown against the young bark of the tree will burn it, and it is advisable to keep it away from the trunk of the trees. However, it is not necessary to get as far away as three or four feet—just so it does not touch the tree, will be all right. However, it should be applied approximately as far out as the branches of the tree extend, then it can be allowed to dissolve or be worked into the surface soil by cultivation. certain fertilizen

### Slender Branches

I have some apple trees about styears old that seem to have very stender branches especially a Maiden Blush. I have pruned them back each spring except last spring. If each limb had an apple on the upper end they would bend to the ground. What should I do to make them more stocky?—N. B. G. Kansas.

Kansas.

SOME varieties tend to grow rathe slender branches, particularly while the tree is young. The shortening up of these branches in the sprin would tend to make them stocked Later on after the tree developmore, you can cut some of these branches out entirely, but in the mean time the more leaf surface you have the more growth you will get on you tree. Of course, you want the thinned out enough so that the limb will not be too crowded or the tree "o"bushy," but you should bear in min that a lot of these branches while should be left on the tree now will have to be removed in the future otherwise the tree would become a tirely too dense and would prevent it sunlight getting in to the center of the tree. Jonathan is another variety the grows very "willowy" while young.

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### acking Apples For Export

ing filled it should be shaken several as in order to settle the fruit, and hen the barrel is filled to within a inches of the top, the "shakes" ould be used to secure a smooth sursofor "ring tailing."

In Canada the "ring tail" is rewied as so important that the packy law requires it. "Ring tailing" ares a completely filled barrel and smooth surface for applying pressure, with the least possibility of whing the fruit. The smallest appreshould be used for the "ring tail" a before placing the head the haker" should be used again and the order well shaken to settle the fruit descure a smooth surface. When plying pressure, the barrel should be more be well shaken to avoid ushing.

All barrels should be carefully inmeted to see that the cooperage is
manciently strong for export. The
ilige hoops should be strong and semely nailed so that they cannot easity be dislodged. A broken or disborged hoop means a slack barrel and
no smount of coopering thereafter can
make it tight. If wire hoops are used,
it is advisable to staple the bilge
hoops at every second or third stave,
and two head liners should be used on
such end of the barrel across the ends
of the head pieces.

In connection with American boxed
apples the English railroads express
considerable dissatisfaction over excessive breakage. They say that the
American apple box is too frail and
that not only should stronger containers be used, but that the boxes should
be wired, and the bulge eliminated.
While no doubt the breakage complained of is the result of contributory
negligence on the part of the shipper,
handlers, and the railroads themselves, it would be well for the shipper,
to take every possible precaution
against loss. Wiring costs very little
and is so advantageous that boxes
should be secured in this way. Wire
the boxes at the strake, and not in the
center over the bulge. In boxes that
are wired in the center over the bulge,
recession of the bulge following
derinkage of the fruit leaves the wire
loose. Porters and dockers are prone
to pick up the box by the loose wire
and in many instances boxes so handied are dropped and broken. Coated
sails instead of plain nails are another protection against damage, as
such nails hold more securely, particularly when the box ends dry out.

It is also important that the apples
be packed cool and kept out of the
sum after packing, fermentation or decay
is likely to set in. And when hauling
to the railroad station it is advisable
to use tarpaulin or other covering to
protect the barrels from the direct
rays of the sun or from rain.

Special precautions must also be
taken in loading and shipping. Inleading the cars, the barrels should be
placed on the bilge crosswise the



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re is a size to fit your needs— nuch or as little power as you ay require. Prices are from

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### TO AWARD LONG DISTANCE PRIZE

Six hundred dollars in prizes hung up in the spring of 1914 by the Minnesota State Horticultural Society in the single acre orchard contest which was to—run seven years, will be awarded this fall. Of 28 of the original contestants only 10 have complied with all the provisions of the contest and are in the running for the prize money which is \$200, first prize; \$150, second; \$100, third, with \$150 to be divided pro rata among the other contestants.

divided pro rata among the other contestants.

Two of these seven-year orchards are in Renville county, two in Benton, and one each in Houston, Winona, Wabasha, Dakota, Hennepin and Chippewa counties. E. Yanish of St. Paul, R. A. Right of Excelsior and Professors W. H. Alderman and R. S. Mackintosh of University Farm, members of the executive board of the horticultural society, are now inspecting the orchards preparatory to making the awards. Growth, density and balance of head, alignment of trees, uniformity of size and shape, integrity of orchard and health of trees, foliage and fruits are the factors upon which the awards will be based.







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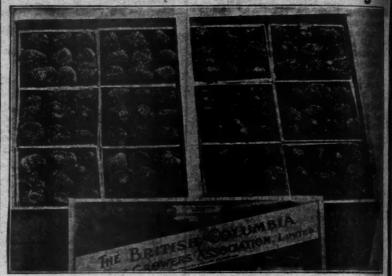


### Co-operative Movement in British Columbia

By H. Glynn-Ward, British Columbia

THERE has lately been formed in British Columbia an amalgamation of all berry-growers' associations in the country, and the results of the past season have been of such remarkable benefit both to the individuals and to the Province that it stands out as a memorial to the value of co-operation.

For twenty-five years individual growers have been struggling along with their commercial berry-patches without any signal success. They know that they have both the fertile soil and the necessary elimatic condi-



Such A Cente of Berrico As This Should Win Attention

tions on this part of the Pacific Coast, they have the clamoring markets of the prairies at their very door and yet in spite of a lifetime of work and en-

in spite of a lifetime of work and endeavor they have met with failure just for lack of regular business organization and co-operation on a large scale. The individual grower had no proper knowledge of his markets, or whether a locality that had given him good custom one year would buy elsewhere the next and give him none at all. The small associations could not afford to provide proper cooling-houses and other facilities for handling the fruit previous to shipment, or else they could not afford proper inspection as to grade and pack and this of course allowed the first-class grower to suffer at the gain of the second-class producer and both to lose out in reputation.

In 1915 the Gordon Head Fruit-Growers Association on Vancouver Island was formed. This district produces chiefly strawberries and the association by dint of providing adequate field-inspection and refrigerator-cars for shipping has built up for itself a reputation all over the North West which has never declined.

After this, various co-operative as-

which has never declined.

After this, various co-operative associations began to spring up on the lower main-land. The Fruit and Mercantile Exchange at Hatzic was formed, and the members thereof, recognizing that up-to-date methods were essential to success, built a warehouse and installed it in a small freezing and pre-cooling plant. They shipped berries in car-lots to the prairies in perfect condition and frozen fruit for jam as far east as Ontario. By the end of the first season the membership of this exchange had increased from 28 to 120, and by July of 1920 there was completed at Hatzic a modern pre-cooling and cold-storage plant of holding 600 tons of berries, which capacity can be increased to 1,000 tons by further insulation of the basement.

It became obvious to the business

It became obvious to the business eads among the fruit growers, as the

strengthened proportionately. The Head Association has bought up a large cold-storage plant that cot \$75,000 to erect and equip with the object of storing berries for jam and canning and of checking any glut he the fresh fruit market. Never was a action more far-sighted and timely for this season has been an extraordinary good one for strawberries, although prices have been lower than for many years. This fact and the excessive rains would have spelled disaster for many small growers had they not been able to fall back on their association own factory.

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own factory.

Already over 135 car-loads of stravberries for the prairie markets have been moved east of the Rockies and it is expected that 40 or 50 cars of respective will follow them.

berries will follow them.

Approximately 175,000 crates were ordered early in the season by the sociation for the output of its members each costing 28c as against the highest price of 45c last season which shows that the growers get better rates by pooling their buying and giving orders ahead of the rush season.

The value of last year's crop of berries in British Columbia approximated a million dollars and this year it is expected to be even greater.

### AUTOMOBILES ON FARMS

The number of farms which had automobiles on January 1, 1920, according to the Fourteenth Census, was 1,979,564, or 30.7 per cent of all farms in the United States. These farms reported a total of 2,146,512 automobiles on the census date.

Automobiles were reported by a than one-half of the farms in a states, namely, Nebraska, Iowa, S Dakota, Kansas, Minnesota, N Dakota, California, and Illinois.

The following states reported months 100,000 automobiles on farms in 1920: Iowa, 177,558; Illinois, 189,000: Ohio, 128,884; Kansas, 111,055; Minsota, 107,824; Texas, 105,292; Nebraska, 104,458; and Indiana, 102,13

and joine

### Are Our Times Hard?

HAT did you have for breakfast this morning and what will you serve for I would feel safe in guessing that you are the family had plenty to eat, and I'd almost as safe in guessing that you are newhat concerned about the hard times are all talking of these days.

retty much everything in the world is parative and, if you judge this year by past few years, there may be some ex-for your calling the times hard, but if look across the water at any one of half ozen European countries, you can but that your lot is fortunate in a high

is not well to let our thoughts dwell much upon tragic things which we canhelp, but sometimes it is wholesome to e such comparisons. Particularly it is I to use them to teach our children how ly blessed they are in their comfortable mes. Tell them the story of the starving ssians. Compassion for the sufferings of le children so far away will broaden their nanity. They will appreciate their own olesome fare when they know that thou-nds are living on sour grass soup and ffing themselves with clay which eventukills them.

A lesson of splendid and lofty patriotism be drawn, too, from these stoical and norant peasants. Floyd Gibbons, the wspaper reporter, tells of seeing a starycrowd of hundreds, drawn from their solate farms to the banks of the Volga here a great pile of seed grain lay under paulins. But though they were dying the food lay there ready to hand, they de no attempt to touch it. It was seed and therefore sacred in their eyes.

Hough they perished, this grain must be pt to make possible a harvest for those survived.

sople with such nobility of soul are wely worth saving.

### Ku Klux Klan

A PICTURE out of the dark past—sheeted horsemen riding by night, swift retributive justice administered outside the law; a memory of mystery and appersitious terror; a dangerous remedy or a disastrous condition. Law abiding

a disastrous condition. Law abiding tizens, even those who looked leniently or yen approvingly upon the deeds of the lan, were glad to have it pass away.

And now here it is again. Purged, if we ay believe its leaders, of any lawless interests of at ever popular figure—the 100 per cent delooded American. But why then the asking sheet that shields the doer of supedly noble deeds from all personal reconsibility, and why the choice of the old

tainted name? An unfortunate choice surely for a group of patriotic citizens.

These questions may well puzzle the simple who are wondering to what class of individuals the masked mummery and the name with its lurid associations will make an appeal strong enough to induce them to constitute themselves members of the revived association. It is practically unavoidable that, however righteous the intentions of the founders of the present Klan, unfortunate things will be done in its name either by unworthy members or by masqueraders who will pass as such in the eyes of the public. This will discredit the organization.

Women of the civil war period waited in trembling anxiety the return of husband, brother or son from the mysterious midnight expeditions which sometimes resulted in loss of life for them or for their victims. The women of today will be loath to subject themselves to similar anxieties. They will exert their influence to dissuade their men from joining an organization that has no reason for existence in this day and genera-

### Send Your Old Books

TTS REALLY a shame the way good books are wasted. So long as it holds together, a book is exactly "as good as if it is the inside of it that interests us. Fancy bindings do not make books save in the eyes of a certain type of book col-lector, or of distracted last-minute Christmas shoppers. Yet how seldom a book does anything like full service before it is cast aside. Often one says "I wish I knew what to do with this heap of books and magazines that have been read."

Here is an opportunity all ready to your hand and one that will appeal to every reader. A letter came to us not long ago from near Cumberland, Md., that goes straight to the heart. This, you may know, is a wild mountain region, and here is a lonely man, a sick man, one who bravely does the day's work and then, in the long hours of darkness, finds time hang heavy unless he has the companionship of books.

You will like to read a part of his letter.
"I'm an old bach., who lives alone, doing all my own cooking, sewing, housework, pre-

all my own cooking, sewing, housework, preserving, etc. Never well and never can be. Live in a lonely place, see a visitor once a month. Made 93 glasses of fine jam this season, wild strawberry, dewberry, raspberry and blackberry, no other fruit at all. "It gets so horribly lonely during long nights and wet days that I'm asking if you can possibly dig up some old books to read, older the better—no matter whether they have any backs or not; or if you can find any in neighbor's garrets. I'll gladly trade better bound books, newer ones for them."

Don't you want to help him pass some of

these lonesome hours in the company of a good book? Look in your garret—if that's where you "junk" the books and magazines you are through with. Send him a package addressed to Clifford E. Davis, Box 267, Cumberland, Md. Do this promptly, for the out-door season is closing in, days will be wet and nights long. The solitary invalid will need cheer in the house.

### A Test for Parents

HE vogue for mental tests came in with the draft, and now we are showered with them and some of us feel quite bedraggled after a tussel with questions that have no bearing on our daily life. Thomas Edison framed a questionnaire that fairly crackles, and convicts us of imbecility if not worse. However, Mr. Edison's brain is popularly supposed to emit electric sparks (or shocks, as in this case), and we cannot be expected to scintillate as he does. That's some consolation.

Hudson Maxim's test leaves us with our conceit all shot to pieces, but who need blush to be bolled over by such a big gun as Mr. Maxim? Moreover the fruit grower and his wife shrewdly suspect that Edison and Maxim might blink long at each other's questions, and also that fruit growers themselves might ask a few questions of their own such as "How to spray for a maximum crop of apples," or "What is the best diet for incubator chicks," that would cause either of these formidable gentlemen to droop his dininished head. It's much easier to ask questions than to answer them.

But from a school in Toronto, Can., there has been issued a questionnaire which no parent of a child of school age can afford to dismiss thus lightly. Read it and you will be forced to ask yourself if you can answer these questions satisfactorily, and if not, why not? Here are the most important

of them.
"Do you visit the school to inquire about your child's progress and deportment, and see if you can help the teacher to help the child?"

"Do you encourage your child in respect for teachers and for others in authority?" "Do you send your child to bed in time so

that he will be fit for study?"

"Do you provide plain, nourishing food and see that your child is up in time to eat a good breakfast?"

"Do you interest yourself in your child's sports, amusements and friendships, and do you comply with the rules of public health in your home?"

in your home?"
"Do you keep in mind the fact that while the school may be made to instill right principles, your children are handicapped if you do not support the school by instilling obedience and high ideals of patriotism and permitted."

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REATEST sport you know to pull out your and roll up a cigarette! That's because P. A. is so delightfully good and refreshing in a cigarette—just like it is in a jimmy pipel You never seem to get your fill—P. A.'s so joy'usly friendly and appetizing.

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### Music in the Home

By Mary Lee Adams

ROM the little boy who puckers up his mouth and whistles, to a Caruso or Paderewski, it is the same natural impulse that urges all to express themselves in music. Birds do it. Cats think they do. E'en the rude katydid, for lack of a better instrument screenes his scally little less. katydid, for lack of a better instru-ment, scrapes his scaly little leg against his harsh wing and makes things hum. What a poor fish does to please his lady friends we cannot guess. Spreads his tail perhaps like a peacock. The love songs of the wild are varied, spontaneous and sometimes far from enchanting save to the ears for which they are intended. These they always charm. they always charm.
Outdoor music of birds is one of our

blessings, but birds will not sing to order and they do not sing in winter. Then, even more than at other seasons, music in the home is valued at its true worth. It is almost impossible to exaggerate its importance and the to exaggerate its importance and the happiness, good fellowship and contentment that accompany it. It is said that music in the home, more than any other one thing, reconciles young people to life in the country. They are not so ready to fly from the home where gaiety and youthful society, are insured by the attraction of

The Merry Home

Round such a home boys and girls gather for good times. Joyous singing is heard, simple old time melodies, the latest operatic success, the newest song hit, and if dancing be favored, as where young people are assembled it is sure to be, it can be carried on happily under the best possible conditions for wholesome amusement, that is in the home circle.

Dancing is not approved by some

the home circle.

Dancing is not approved by some religious sects, and some kinds of dancing could not well be approved by any, but when properly done it is quite unobjectionable if it violates no sense of obligation to the tenets of a particular church. It is healthful, joyous, harmless and promotes cheerful, friendly relations. Dancing was originally a religious rite. David himself danced before the Ark of the Covenant.

nant.

And how the young people, and if we may believe our eyes some not so young, do enjoy it! There is no pleasanter sight than an assembly of all ages whole-heartedly taking part in dancing. It cannot be done without music. There is a deeply-rooted instinct in man to move the body in time to music. A quaint old poet has recorded this in the striking (and fortunately unusual) lines, "Music hath power to charm, As well the leg of beauty as the arm."

A Far Reaching Power

But dancing is far from the only re-creation provided by music, which must take but a secondary place at that time. Little children play never so happily as to music, and the lulla-bys of the ages contain some of the tenderest themes known to the mother who grooms to her drowsy habe. Many

bys of the ages contain some of the tenderest themes known to the mother who croons to her drowsy babe. Many a panic has been averted by the presence of mind that prompted one in the crowd to play or sing. Martial music stirs the soul and rouses courage in the soldier's breast, while his long march is made less fatiguing when he can step in time to fife and drum.

There's nothing like it for stirring the emotions. During the war, this psychological effect was recognized and manifested itself in the Community Sings which worked patriotism up to the highest pitch. Everyone left a "Sing" feeling that patriotism came first. Indifferent workers were spurred to more sustained endeavors and purse strings loosened under the magic spell.

We should continue to profit by the lesson we learned at that time of the power of music and song. The com-

munity that organizes weekly com-munity sings, has a driving force to obtain the objects that are desired for the general good. Singing together just for a good time is a very wholesome relaxation.

### Make Your Own Music

Is there a group of young people to be found, among whom some do not play an instrument? It may be the banjo or the ukulele, but it is "something to sing to." In the family it is usually the daughter, or daughters, who receive instruction in plano playing. These fortunate girls are greatly in demand, especially at social occasions. The number of fruit farmers homes that have a piano is surprising, and we venture to say there would be many more, even in daughterless homes, if the initial difficulty of learnmany more, even in daughterless homes, if the initial difficulty of learn-

homes, if the initial difficulty of learning to play could be overcome.

And it can be overcome so easily now that science has brought to such a high degree of perfection the various musical instruments. There are phonographs which reproduce the human voice in a manner to defy detection by the most expert musician. There are player pianos that admit of such wonderful interpretive playing that only a professional of long standing can approach the beauty of performance within the reach of the amateur.

teur.

The true delight of this kind of music is that men and women who have longed to express themselves in music and have not had the opportunity to take the necessary training, can sit down to one of these modem player pianos and play acceptably. But that is not the best of it. A few months of practice, and they can perform delightfully. Like the professional, they keep right on improving year after year as they develop within themselves the capacity for true and delicate interpretation.

### All the Family Play

All the Family Play

The beginner is not left to stumble along in the dark. Instruction rolls are provided with the player piano, which are so plain and easy that a child can understand them. With these rolls as guide the untaught music-lover is led to bring out the best that is in the piece. What a rare delight it is to the busy housewife who has to snatch her half hours of relaxation when she may, to sit down to her piano and listen to the favorite air that soothes every tired nerve.

And the farmer himself, when the evening finds him weary with the long day of toil and he feels reluctance to make any exertion, how peaceful and happy it is for him to choose the music that best fits his mood, be it the latest operatic air, the old familiar melody, the lightest bit of fun or the most solemn works of the greatest masters. Every variety is at his command and it lies in his own choice to reel it off purely mechanically or to put into it simply and earnestly, without any technical skill, all the meaning of the genius who was inspired to compose it.

This gives a deeper satisfaction than merely to sit and listen to what another may be kind enough to play for you. People have different tastes. Yours is your own and naturally you wish to indulge it. It is noticeable that the longer a piano is in a family, the finer the taste of the household becomes. Each individual preserves his particular bent, but the level of the whole is raised. They may start out with rag time and jazz, and they may never give it up entirely for it suits certain moods, but sooner or later there will be felt a longing for the finer and truer music. This is the most elevating and refining influence that can be brought into a family.

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# The Luck of the Irish

By HAROLD MacGRATH

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STNOPSIS

dilliam Grogan was a journeyman plumber in the mement establishment of Burns, Dolan & Co., and view from his work bench was the ever changing secans of passing boots and shoes over the pavest. One particular pair of fentiane shoes that in the afternoon became of posuliar interest to a few for the pavest. One particular pair of sentiane shoes that in the afternoon became of posuliar interest to a first of shoes of the pavest. One part of the standard in the desire of the standard in the standard in the shall not be standard in the standard in

lene the was imprisoned in another house, and on the min with day Colburton entered her room. In the symmet that followed, he accused her of stealing a time of pearls from him. Nightly for a week Colmiton came to be ser room, and on the last night he as drunk. During the fight that followed, William, to in the meantime had found where Ruth was prisoned, entered the room. He turned the key n the door and dropped it into his peolos. After a seprente struggle between the men Culburton was hown bodily out of the room troubt the door that ad been broken open by heavy Chinamen. Ruth stated up the pearls that had contered over the toe, and with William, hurried out of the deep they were immediately married by an American misses, Then Ruth was stricken with brain fewer of William become aware that his mine; was about if gone. The sonchuding installment of this fascing story begins at this point.

at william became sawe that his money was should gone. The stouchding installment of this fascing store being at this point.

THE doctor called. The temperature had not gone any higher, and this saw an encouraging sign. Bravely William laid bare his financial predicament. No matter what happened, he was not going to sail under false colors. The doctor told him to put whe worries into the background, or there'd be two patients instead of one. "There's a lot of white men in this world, after all."

Buth's left arm lay outside the coverlet. William laid his hand upon the forearm. It was dry and hot. He raised it gently to put it back under the eoverlet, when the two rings caught liseye. The sight of them gave birth to a Quixotic idea. Slowly he slipped off the rings and dropped them into a pocket. When she came to her senses his act would at least save her the shock of immediate recollection. She need never know until she was strong enough.

The next day, his heart big with misery, William went forth in search of a job. He was obsessed with the idea that he must find some way to make money. It was all right fox the doctor and the nurse to trust him, but somer or later he must have money. He returned to the hotel at noon. Ruth's condition was unchanged. He emsined two hours at the bedside, then renewed his quest for work. At we he found himself on one of the levers, what drew him toward a group of white men he did not know. It was one of those mysterious "burches." Three of the men were officers off some reasel in the harbor, and the fourth rest a landsman.

But, men, can't you dig up some one or us? We can't wait for your expert to return and we can't put to sea with resh-water tanks aleak and the piping roken God knows where! I can't afford to have any native tinkering around my ship, It's no ordinary yob. Why can't you handle it personally?"

"Simply because while I manage a shop I'm no expert plumber. Jason is probably the only man in Singapore who knows anything about ship plumbing."

Ship plumbing? William's heart esped thunderously. So much desented upon his address. He called it did. He would have exchanged a rear of his life for ten minutes of that hid fearlessness. If he could keep his loce steady, mask his anxiety. He stepped forward.

Tardon me, but are you looking for expert plumber? I'm one. Couldn't

help overhearing your talk. I've nothing to do, so I thought I might be able to help you out. It's dull between boats, and Raffies's isn't a lively joint just now. And I know something about the insides of a ship."

about the insides of a ship."

The chief engineer—for William recognized his stripes—looked at his watch. After all, the situation was quite as unusual as this young man's offer. It was no time to dodder, unless he wanted to lay up is port for weeks. It might be that he had, fallen into a bit of genuine luck.

"Five o'clock. I suppose I'll have to take a chance. Step aboard the launch. Mr.—"

"Grogan—William.

Mr.—"
"Grogan—William Grogan, of Burns.
Dolan & Co., New York."
"Glad if you can help us."
"You've got a good working-plan of the piping?"
"Yes."

"You've got a good working-plan of the piping?"

"Yes."

At seven o'clock William had located the vital spots. The port side of the main deck, forward and amidship, would have to be torn up. The job would take perhaps eight or ten days. He would depend upon the manager for helpers. He would give his services as expert for two hundred dollars; they could accept it or decline it.

The manager finally agreed to the terms, and William started back to town. The sweat he wiped from his forehead could not be charged to the heat. Two hundred dollars! There was something in this Irish luck, after all. As troubles never come singly, neither do the good things. The consul-general returned from his hunting trip, despatched documentary evidence sufficient to establish William's right to his letter of credit, explained the situation to the management of the Raffies's, and William's financial difficulties became recollections. He had his trunk and grips brought down to the room adjacent to Ruth's, and his only care was to wait upon her, to share through the nights the burdens of the nurse, and to assume a cheerfulness he was far from feeling.

The slowness of Ruth's convalescence rather baffied the doctor. Apparchtly this young wife did not care whether she got well or not. There was none of the usual fretting over staying in bed; she seemed content to lie there upon her' pillows. The doctor, however, did not confide this fact to William.

Two weeks passed before Ruth was able to sit in a chair. They carried her out to the wide veranda-gallery whence she could view the lovely panorams of the harbor. And hour after hour she sat there, staring at the ships as they came in or went out to sea.

One day, when she was able to walk about, Ruth asked—in fact, she had been wanting to ask the question for some time, but until now could not push her courage to the point—if she had her out to the got and the fact to william.

"Tes. I believe Mr. Grogan took them off for fear you might lose them, said the nurse. "You flung your arms about

push her courage to the point—if she had had any rings on her hands when taken ill.

"Yes. I believe Mr. Grogan took them off for fear you might lose them," said the nurse. "You flung your arms about a good deal. You're a lucky woman, Mrs. Grogan. How that man loves you! Of course, you know that he had no money. He went out and found work. He'd work all day and watch at your bed nearly all night. Sometimes he fell asleep in the chair, and I would not disturb him until breakfast. For ten days he worked from six in the morning until five in the afternoon, and the pity of it, it wasn't needful. But he thought he just had to have money. He didn't know that the doctor and I understood, or that the doctor had quietly informed the office of the circumstances. We let him work because if he didn't have something to occupy his hands he would have fallen ill from sheer worry. He'd got the idea that in this part of the world nobody trusted any one. Well, we don't, everybody. But all we mad to do was to look into his eyes."

The nurse, after freshening up Ruth's pillow, went back into the bedroom to make the bed.

All the puzzling mysteries vanished, all the cobwebs of doubt blew away. She was married. She was Mrs. William Grogan. He had taken advantage of her helplessness, her mental unbalance, for when she had left that hideous place in Malay Street she had not been strictly accountable for her subsequent acts. Mrs. Grogan:

THE nurse still slept on the cot on the verands. So Ruth was alone now

THE nurse still slept on the cot on the veranda. So Ruth was alone now during the nights. The doctor had decreed thus. The patient's eyes, unattracted by movement of any kind, were more likely to close; and Ruth needed sleep, long hours of it. But if she could not see, she could hear the infinitesimal sounds of the night: the ticking of the clock on the stand, run-

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ning water in some room a dozen doors away, the light crunch of passing rick-shaws, the snap of a match in the court, and the pacing of the man in the next room, her husband.

Suddenly, one night, she heard a new sound. It was the door-knob! She was about to summon the nurse when the rattle ceased. She looked at the clock. It was nine. The door-knob was not disturbed again that night.

For five consecutive nights, however, the knob rattled; always somewhere around nine, after the nurse had retired. On the sixth night, after the usual pacing, she heard him turn the knob again, but this time there came a gentle rapping.

"Ruth?" he called.
She did not answer. She sat up rigidly.

"Ruth, I must talk to you."

Then she spoke. "What is is?"

"Yes got something to say to you, and I can't tell it to you while the nurse is around."

"Can't you tell me through the door?"

"No. This thing has got to be a face-to-face business."

She got out of bed, turned on the light, and put on her kimono. Easily five minutes passed before she felt strong enough to go to the door.

As she opened it and stepped back, her shoulders were dripping. She was so weak that if he touched her she must fall. But he did not enter the room. He stood on the threshold and stared at her miserably.

44 TVE BEEN a coward," he began, his

This glance roving and pausing, avoiding as much as he could her wide, startled gray eyes. "But I couldn't put it off any longer. I've got to tell you what's on my mind, and I don't want any strangers around.

"In the first place, I want you to forgive me the wrong I've done you."

"Wrong?" The trend, so absolutely at variance with what she had been expecting, befosged her.

"Ye-ah. I didn't honestly mean anything wrong, but I've done a whole lot of thinking lately. When I asked you to marry me you weren't yourself. You'd just been through seven kinds of hell. And I didn't know that I was thinking a lot about William Grogan when I asked you; but I guess I was. When I asked you but I guess I was. When I said I loved you, God knows that was square and true enough. I suess I began loving you from the first day you walked past my cellar window; but I didn't wake up to the fact until you came aboard the Ajax. Yes, that was honest enough. But deep down somewhere I thought maybe I might have a chance if you were marriest to me. Well, what I had on my mind was this: to give you a name until we got back to the States, to have the right to take care of you, to see that you had everything. I didn't know that you were coming down. Ferhaps I wasn't very steady myself; I'd just bout through a were coming down. Ferhaps I wasn't very steady myself; I'd just bout through a were coming down. Ferhaps I wasn't very steady myself; I'd just bout through a were coming down. Ferhaps I wasn't you had everything. I didn't know that you were coming down. Ferhaps I wasn't you have there in up on the Ajax. When you lay there in up on the Ajax when you lay there in up on the Ajax when you lay there in up on the Ajax when you lay there in up on the Ajax when you lay there in up on the Ajax in the property of the property

an epic or an idyl in the air. The epic in this instance had already been were

As she laid down the pipe he came in and halted by the door in his astonia.

As she laid down the pipe he came in and halted by the door in his actorishment.

"Where have you been?" she questioned, with a nod toward the untouched bed.

"Why, I couldn't sleep in here has night; too muggy. So I spent the night over on the grass-plot down by the sea Sleep like a top. And how do you feel this morning?"

"I'm a good deal better."

He nodded comprehendingly. He terror gone, she would naturally pick tup from now on.

"And I'm crasy to go home. When can we start?"

"Think you'll be strong enough two weeks from to-day?"

"Oh, yes. I'm going to get stronge every minute." She spoke boldly, but she no longer telt boldly. She had entered his room with a great resolve and now she was afraid. Afraid of what? She did not know, unless it was that william did not look homely this morning.

"That's the way to talk," said he briskly. "I'll see about passage to-day. Gee! but I'm a homesick pup myself."

He sighed.

"Who, me? I didn't sigh, did I?"

asked.

"Who, me? I didn't sigh, did I?"

"Like a house afire. What made you?" Never in all her life had she been so happy. "What made you?" she repeated.

"I can't tell you, sister."

She held out her hand, palm upward. He eyed it, his expression one of mystification. He was poles away from the true meaning of the gesture. The fact is, the idyl was about to be written. He advanced toward her irresolutely.

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ten. He advanced intelly.

"What's the matter, sister?"

"Don't you ever call me that again, william Grogan! I . . . I want my since."

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"What's the matter, sister?"
"Don't you ever call me that again. William Grogan! I... I want my rings."
Mystification resolved into blank stupidity.
"Do you hear me? My rings!...
Or don't you want me? Are you going to let me go?"
He started to run his fingers through his hair, but she caught his hand and drew it down, clinging to it.
"And you thought I was going to let you go! Oh, man, man! If you could only see yourself a little as I see you. And if God had made it possible for me to love you as you are worthy to be laved! There is no flame or fire in what I offer you; but I'd give you my heart's blood if you wanted it or needed it.
The blood was rushing into his throat and drumming in his ears. She went on. He hadn't the power to interrupt her.
"I will be a true wife to you, William Grogan. I will work for you and with you, I will try to make you happy, help you in your ambition, be with you and of you until the end of time. And you thought I was going to let you go! You put me on a pedestal, and you've seen what poor stuff it was made of But I didn't put you on a pedestal when my eyes opened you were already on one, all gold. Will you help me climb up there with you? That is, if you want me?"
"Want you?" He dared not touch her yet.
"Ye-ah!" She laughed and tugged at his hand again. "Do you remember the day of the typhoon? You called me a little fool. I wasn't. I was a great and glorious fool. Will you were forget the feel of the wind and water in your hair?. You held me pretty tight that day. Suppose you do it again and kiss me, being as I am your true wife? And do it before the nurse comes and sends me back to bed!"

WILLIAM sat sprawled in a comfortable convas challer before the door.

william sat sprawled in a comfort wable canvas chair before the door of his room. The long veranda-gallery was deserted except for himself. He smoked, but only enough to keep the coal alive in his pipe. He was watching the rickshaw road through the interstices of the veranda rail.

He fell to musing. He was always doing that nowadays. His wonder was undiminished; in fact, it went on growing and growing. He, William Grogan here in Singapore, with scarcely a dream left unfulfilled! He worried a little. Things didn't work out that way, not even in his favorite novela. Ruth, who had gone shopping, ought to be coming along soon. They were to sail at nine that night for Hong-Kons and home.

There was only a speck in the amber. They would have to wait a little while for that home with the garden. Four thousand dollars. That was the value of the pearls crushed on the floor in the big fight with Colburton. It was a lot of money just then. That and a small mortgage would have built his castle from most to turret. She paid for those pearls a thousand times over, but he couldn't convince her of that One thing, he would never look upon a pearl again without a glow of anger. Sixteen little round white pebbles worth four thousand on page 26)

(Continued on page 26)

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It is cut in \$ sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. A 38 inch size will require 4% yards of 42 inch material. For panel, collar and cuffs of contrasting material, 1% yards is required. Checked or plaid suiting would be attractive for this style with facings of piain material matched in hade. It is good also for gingham, linen, serge, taffeta, tricotine, Canton crepe and broadcloth. The width of the skirt at foot is 2% yards.

202. A Pretty Freck for Growing Girl. It is cut in four sizes: \$, 10, 12 and it years. A 10 year size will require 3% yards of 40 inch material. Organdy, Swiss, voile, dimity, battist, silk, creps, crepe de chine, and gingham, chambray, therefine and serge could be used for this style.

1897. A Charming One Piece Freek.

It is cut in 3 sizes: 16, 18 and 20 rears. An 18 year size will require 5% yards of material, 44 inches wide. The width of the skirt at foot is 2% yards. Serge, taffeta, broadcloth, satin, tricotine, twill, poplin, linen and gingham may be used for this design.

years. A 4 year size requires 2% yards of 27 inch material. Seersucker, gingham, drill, poplin, repp, linen, percale, kindergarten cloth, gaberdine and serge may be used.

3714. A Popular Cent for Girt.

It is cut in 4 sizes: 6, 8, 10 and 12 years. A 10 year size will require 2% yards of 46 inch material. Taffets, velvet, serge, poplin, satin, polo cloth, bolina, velours and broadcloth are good for this style.

Boy.

Cut in sizes 3, 4, 5 and 6 years. A 6 year size requires 3% yards of 27 inch material. If made as illustrated, trousers and collar will require 1% yards of material and blouse 1% yards.

CATALOGUE NOTICE

It is cut in 3 sizes: 16, 18 and 20

The first of material, 44 inches wide. The didth of the skirt at foot is 2\(^1\)/4, yards, orge, taffeta, broadcloth, satin, tricone, twill, poplin, linen and gingham asy be used for this design.

The need for this design.

The NEEDLE (filustrating 30 of the warfound in 4 sixes: 2, 4, 6 and 8)

CATALOGUE NOTICE

Send 15c in silver or stamps for our UP TO DATE FALL & WINTER 1921-1922 CATALOGUE, containing over 500 designs of Ladies' misses' and Children's Patterns, a CONCISE AND COMPREHENSIVE ARTICLE ON DRESS-MAKING, ALSO SOME POINTS FOR THE NEEDLE (filustrating 30 of the various, simple stitches) all valuable to the home dressmaker.



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Simply mail the coupon for a 10-Day Tube. Note how clean the teeth feel after using. Mark the absence of the viscous film. See how teeth whiten as the film-coats disappear. Watch the other good effects.

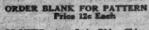
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# Bee Keeping for Profit



By Frank C. Pellett, Illinois

By Frank C. Pellett, Illinois

THE problems of the novice with bees seem to be similar in all sections of the country. At least the letters coming to my desk ask the same questions over and over again. The question most frequently asked is for a book on bees. The writer is the author of two, "Beginner's Bee Book" and "Productive Beekeeping." These can be found at many book stores. However, to every enquirer, we send a list of books on beekeeping by different authors from which the one interested can make his own selection.

What to Plant

### What to Plant

What to Plant

With surprising regularity comes the question, "What can I plant in my garden to feed the bees?" There seems to be a general impression that the bees can get a lot of honey from only a few flowers. If we bear in mind that the nectar gathered from the flowers is almost as thin as water and that the bees evaporate the excess moisture from it to as great an extent as the farmer evaporates the moisture from the cane juice to make molasses, and then consider the minute amount of nectar to be found in each blossom, we will see at once that a large amount of bloom must be available to enable the bees to store much honey.

The bees fly from one to three miles in each direction from the hive in search of forage. If we assume that they will fly three miles from the hive, the circle of their activities will be six miles across. A little figuring at the number of acres over which they fly will yield some rather surprising results to one who has not given the matter any thought. Since the bees fly over thousands of acres surrounding the apiary, the beekeeper neel only be concerned to make sure that suitable forage is within reach of the hives. The bees will go much farther over level land than over high hills or mountains. Where there is a valley on one side with high hills on the other side of the apiary, the bees often forage almost entirely in the valley and on the side of the hills near home.

While there are some garden plants which are attractive to the bees, it is

While there are some garden plants which are attractive to the bees, it is only those which are present in large quantity which are of material benefit. The orchards furnish nectar in abundance during their short period of bloom, because there are millions of blossoms open at one time. White abundance during their short period of blossoms open at one time. White and alsike clover, alfalfa, and sweet clover, yield honey freely for similar reason. Not every plant that blossoms freely yields honey, however. Where one lives in the vicinity of large fields of the plants just mentioned, near large cotton fields in the south, or large basswood forests, he may expect a liberal amount of surplus honey in favorable seasons. Cotton, however, does not yield much nectar on light sandy soils, and some seasons the clovers blossom freely without yielding much nectar. Some plants which are valuable sources of nectar in one locality furnish nothing for the bees in another. The behavior varies greatly under different conditions of soil and climate.

Now and again someone wants to

Now and again someone wants to know whether it will pay to make his own beehives. This will depend very much upon circumstances. It may be advisable for the man who has nothing else to do and who is handy with tools to make his own hives. The man whose time is profitably employed

will probably find that it is cheaper to make the hives by machinery than he can by hand, of course, counting his time. There is much satisfaction in time. There is much satisfaction in having all equipment uniform, and that is seldom the case with home-made supplies. The writer has often bought bees in homemade hives and seldom found it advisable to continue to use them. The advantages found by having everything interchangeable by having everything interchangeable and having every part of every hive fit any other hive as well, soon made up for the cost of the new hive. It is possible, of course, to produce as good money in homemade hives as in factory-made hives, providing they are the right kind. While I could never make it pay me to make my own hives, perhaps there are others who will find it to their advantage to do so. Interior fixtures, such as frames, should always be purchased since it is difficult to make them exactly right except by machinery.

since it is difficult to make them exactly right except by machinery.

It is very discouraging to a beekeeper, who depends upon honey production for a livelihood, to have a man with but a few colonies sell his honey at prices far below the market. Honey has a staple value in the big cities, the same as corn, wheat, pork, or sugar. Yet in the small towns we often find the local stores loaded up with honey from the small apiaries, at a figure far below the lowest wholesale prices in carlots. The man who has but one hog to sell should not, for this reason, offer it at half its value. Farmers of all classes suffer because of the tendency of the man with a little of any product to sell it at any of the tendency of the man with a little of any product to sell it at any price offered. These small lots in the aggregate are often sufficient to de-press the market to a point below the cost of production.

### Luck of the Irish

(Continued from Page 24)

Gentinued from Page 24)

He heard a footfall. He turned and saw Ruth coming toward him. There was a look on her face that quickened his puise. She forced him back into the chair and perched herself upon the arm, curling her fingers in his hair.

"William Grogan," she said.

"Well, friend wife, what's happened?" She told him.

Ruth laid the litle box on the jeweler's counter. "I should like to price sixteen pearls to match these and fill out the string."

The jeweler emptied the box on a bit of velours. He rolled the pearls about with the tip of his finger, picked one up and scrutinized it carefully. Then he walked over to the window, where he adjusted his glass. More scrutiny. He returned.

"Are you under the impression.

He returned.

"Are you under the impression, madam, that these are real pearis?" he asked, staring curiously at Ruth's pale but interesting face.

"Impression?" she echoed.

"Yes, I can give you sixteen that will match up these for about a hundred rupees, madam. These were originally made here in Singapore. Admirable imitations made of fish-scale."

"Fish scale?" Suddenly Ruth laughed.

rable imitations made of fish-scale."

"Fish scale." Suddenly Ruth laughed.

The jeweler caught the hysterical note. "Yes, madam." His thought was: here is another American tourist who has been rooked.

"Thank you."; she said, steadily. "You need not bother to match them under the circumstances."

"Very well, madam." Deftly he replaced the artificial pearls in the box. which he extended to her with a bow. Ruth went out into the street, into the mellowing sunshine. She paused at the curb irresolutely. The whole grama unrolled itself before her eyes, and then receded forever. She took off the lid of the box, poured the pearls into her hand, and then let them trickle into the gutter.

Watch for the beginning rial story next month,

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sensesses Murery Co., Box 101. Cleveland, Tenn.



# The Farmers and the Railroads Face Exactly the Same Problem

The farmer has a real problem. The prices of all his products have declined much more than the prices of the things he must buy.

The RAILWAYS HAVE EXACTLY THE SAME PROBLEM. While rates have been advanced, expenses have increased NEARLY TWICE AS MUCH.

	What has happened to the Railroads since 1916		
·V.	Increase in Revenue	60%	
	Increase in Expenses	110%	×

### High Costs Make High Railway Rates

wants

Passenger rates are about 50 PER CENT HIGHER and freight rates ABOUT 74 PER CENT HIGHER than in 1916. That sounds as though the railways should be making money.

BUT the prices the railways are paying for-

Materials and supplies are 65 per cent.

Taxes are 90 per cent higher; Coal is 160 per cent higher; and Wages of railway employees per hour are 124 per cent higher.

THESE ARE THE REASONS WHY RATES ARE HIGH. RATES CANNOT BE REDUCED until the cost of these things can be brought down.

The things mentioned—materials and supplies, taxes, fuel and labor—have been costing from 90 cents to 100 cents out of every dollar the railways have been receiving.

### Present Railway Rates Are Caused By Labor Cost, Not By Return On Capital

Existing railway rates are higher not because railroad CAPITAL is seeking a larger return, but because railroad LABOR and labor producing things railroads must buy is getting so much more than formerly.

While total revenue of the railways is now 60 per cent greater than in 1916, THEIR EXPENSES ARE 110 PER CENT GREATER, AND THEIR profit has been more than CUT IN HALF.

EVERY INCREASE in rates since 1916 has been intended to—but did not—meet increased costs, CHIEFLY LABOR, and NOT to increase profits.

### Profits have GONE DOWN.

In 1916 the railroads earned 6 per cent, In 1920 they earned less than ½ of 1 per cent. In 1921 they will be fortunate to earn 3 per cent.

A GENERAL reduction of rates now could not be made without BANKRUPTING most of the railways, and making business OF ALL KINDS much worse for everybody.

The managements of the railroads are making every effort to reduce expenses so that rates can be reduced later.

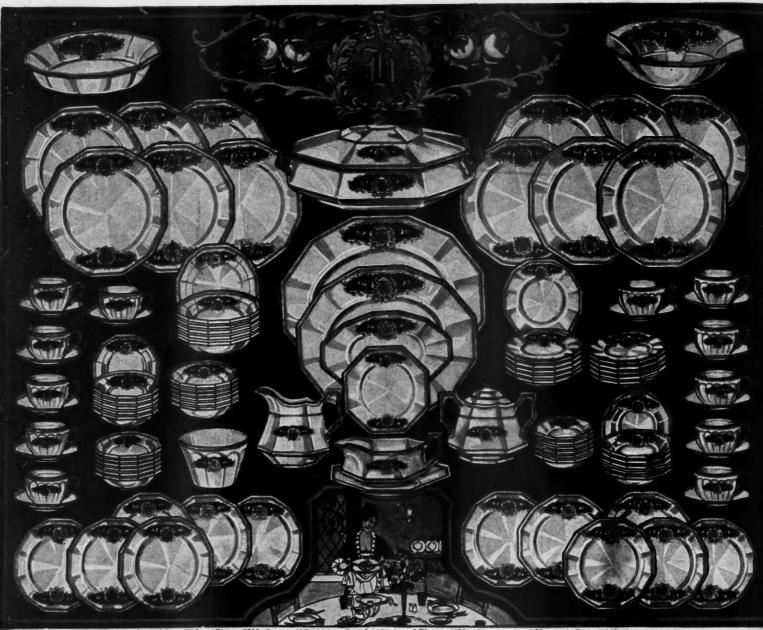
There is NO OTHER WAY than by reduction in expenses to secure REDUCTION in rates. Those who obstruct reduction of expenses not only hurt the RAILROADS but the FARMERS as well.

### Association of Railway Executives

Transportation Building Chicago, Ill.

61 Broadway New York Munsey Building Washington, D. C.

Those desiring further information on the railroad situation can secure it by addressing the offices of the Association



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Wonderful artistic effect is given not only by the new and attractive shape of every dish, but by the rich design surrounding the initial. The one initial with these superb decorations of scrolls, leaves and roses in natural colors, put on by special fired process, appears in two places on every piece. As handsome as enameling you see on fine jewelry.

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